

# NETWORK VIDEO SURVEILLANCE SOLUTIONS



# **FLEXWATCH – Caribbean ALFA & OMEGA ELECTRIC,S.E.**



## Products line up

### IP CAMERA

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- ❖ FW-1130D/DW
- ❖ FW-1131DV
- ❖ FW-1161SE
- ❖ FW-1173DS
- ❖ FW-1173MM
- ❖ FW-1175DS
- ❖ FW-1170
- ❖ FW-1177DE

Box type IP camera  
Vandal Dome Outdoor  
**PTZ** Vandal Outdoor  
H.264 Box type IP camera  
H.264 **Mega Pixel** camera  
H.264 Vandal Dome outdoor  
H.264 VGA / PIR camera  
H.264 **PTZ** WDR outdoor

### VIDEO ENCODER

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- ❖ FW-3150
- ❖ FW-3450
- ❖ FW-3850
- ❖ FW-3170

1CH Video I/O – Audio / Control  
4CH Video I/O – Audio / Control  
8CH Video I/O – Audio / Control  
H.264 1CH Video I/O

### VIDEO RECORDER

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- ❖ FW-5050
- ❖ FW-5170
- ❖ FW-eNVR
- ❖ FW-MANAGER

8CH Network Video Recorder  
8CH Network Video Recorder  
(High Performance)  
Raid Mass storage Unit  
PC-Based Recorder software

### HYBRID : Video encoder + Recorder

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- ❖ FW-5450
- ❖ FW-5850

4CH / 12CH Hybrid recorder  
8CH / 8CH Hybrid recorder

### CMS : CENTRAL MANAGEMENT SOLUTIONS

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- ❖ CMS-iSense

Central Management Software

Network camera for professional IP surveillance

# FlexWATCH® 1130

Network Camera



FW-1130D with  
fixed 4mm Lens



**Model No : FW-1130(D/W/DW)**

## Superior Day / Night function

Optional (Sony EXview HAD CCD (D&N - 0.003lux, F1.2))

## Wireless LAN

Optional (Built-in wireless LAN interface; IEEE 802.11b/g)

## POE (Power Over Ethernet)

Built-in Power Over Ethernet; IEEE 802.3af

## M-JPEG / MPEG-4 with 2 way audio

M-JPEG/MPEG-4 simultaneous dual stream

Synchronized 2 way audio is supported with M-JPEG and MPEG-4  
1ch Video-output / 1ch Audio-input / 1ch Audio-output

## Full frame rate

Up to 30/25 fps (NTSC/PAL) @ 4CIF, simplex

## Channel based user permission

Channel based multi level protection for live-cast,  
PTZ, DO and audio

## Top level event services

Supports service triggered by various events  
Multi-window motion detection  
Pre- and post-image alarm buffering

## Easy installation and management

Provided with installation wizard application  
Full web based management

FW-1130DW with auto IRIS  
and vari-focal Lens



## Shipped without lens

- \*\* User can adopt any lens which has CS mount
- \*\* Supports Auto-Iris lens

Rear view



# Technical Specifications (FlexWATCH® 1130 Network Camera)

<b>Video compression</b>	M-JPEG / MPEG-4 (simultaneous dual stream)	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Audio compression</b>	ADPCM IMA 8Kbps	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (Firmware is available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Analog channels</b>	1ch Video-output (loop-through) 1ch Audio input / 1ch audio output	<b>Misc.</b>	Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server Live-cast for up to 32 clients
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 32MByte SDRAM / 8MByte Flash DC 12V/500mA, 32-122 F (0-50 C), 20-80% RH
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Live Casting</b>	Up to 30 fps @ 4CIF when simplex	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / SMPS DC 12V(800mA) [AC100-240V, 50/60Hz] / Power cord / LAN cable / Mounting brackets / Connector kit
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Connectors</b>	1 composite output (75 ohm/Hi-Z) 10/100 BaseT Ethernet (auto-sensing) 1 opto-coupled inputs or 1 digital inputs (NC/NO selectable) 1 relay outputs 1 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: RS-232 or RS-485)
<b>Audio support</b>	Full duplex live audio	<b>Image sensor</b>	1/3" 410K Sony Super HAD CCD 1/3" 410K Sony EXview HAD CCD (Optional) Resolution: 480 TV Lines S/N ratio: 46dB or more (AGC OFF) Electronic shutter speed : 1/60 - 1/100,000 sec (NTSC) 1/50 - 1/100,000 sec (PAL) White Balance: ATW
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell and etc	<b>Lens</b>	Shipped without lens CS mount
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)	<b>Minimum illumination</b>	Color: 0.5 Lux (F1.2, Super HAD) / 0.3 Lux (F1.2, EXview) B*W: 0.2 Lux (F1.2, Super HAD) / 0.003 Lux (F1.2, EXview)
<b>Alarm management</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 1 alarm input / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 2.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm output	<b>Image settings</b>	BLC (Back Light Compensation) AGC (Auto Gain Control) ELC (Electronic Level Control) FLK (Flicker Less)
<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aoup.co.kr">http://www.aoup.co.kr</a> )	<b>Wireless interface</b>	IEEE 802.11b/g Built-in wireless (optional)
<b>Security</b>	Channel based user password protection for Live-cast, PTZ, Alarm-output and Audio	<b>Power Over Ethernet</b>	IEEE 802.3af Built-in POE
<b>Software (default Web interface)</b>	Live-cast and PTZ control through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)	<b>Dimension</b>	85(W) x 150(D) x 50(H) (in mm)
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM )	<b>Weight</b>	380g (0.84 lbs)



Caribbean





# FlexWATCH® 1131DV

Network Dome Camera



Model No : FW-1131DV

Front view



## Vandal proof / weather proof

IP66-rated  
1000 kg (2200 lbs) impact-resistant casing  
Polycarbonate clear dome glass

## Superior Day / Night function

Sony EXview HAD CCD (D&N - 0.003lux, F1.2)

## POE (Power Over Ethernet)

Built-in Power Over Ethernet; IEEE 802.3af

## 3-Axis

Viewing angles are available regardless of where the camera is installed

## M-JPEG / MPEG-4 with 2 way audio

M-JPEG/MPEG-4 simultaneous dual stream  
Synchronized 2 way audio is supported with M-JPEG and MPEG-4  
1ch Video-output / 1ch Audio-input / 1ch Audio-output

## Full frame rate

Up to 30/25 fps (NTSC/PAL) @ 4CIF, simplex

## Channel based user permission

Channel based multi level protection for live-cast, PTZ, DO and audio

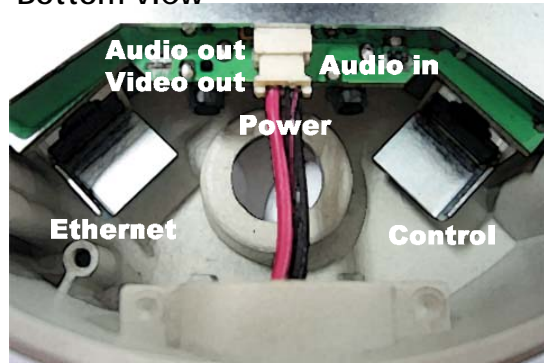
## Top level event services

Supports service triggered by various events  
Multi-window motion detection  
Pre- and post-image alarm buffering

## Easy installation and management

Provided with installation wizard application  
Full web based management

Bottom view



We are providing several type of brackets (optional).

Flush mount



Wall mount



Wall mount



\*\* Color and shape may change without user's consent.

# Technical Specifications (FlexWATCH® 1131DV Network Dome Camera)

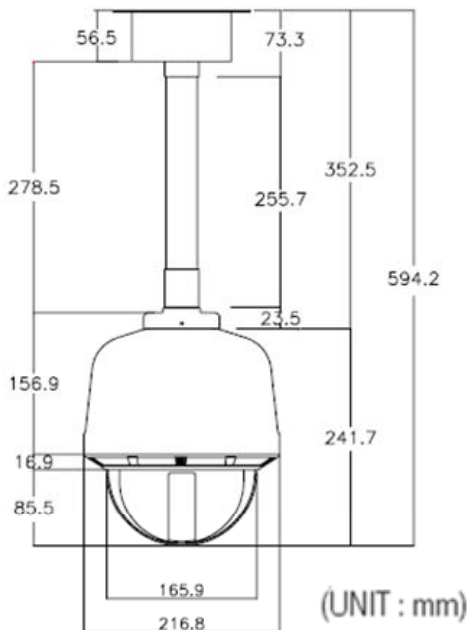
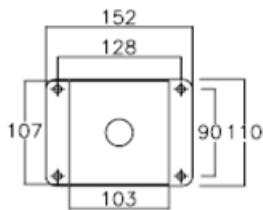
<b>Video compression</b>	M-JPEG / MPEG-4 (simultaneous dual stream)	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Audio compression</b>	ADPCM IMA 8Kbps	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (Firmware is available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Analog channels</b>	1ch Video-output (loop-through) 1ch Audio input / 1ch audio output	<b>Misc.</b>	Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server Live-cast for up to 32 clients
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 32MByte SDRAM / 8MByte Flash DC 12V/500mA, 32~122 F (0~50 C), 20~80% RH
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Live Casting</b>	Up to 30 fps @ 4CIF when simplex	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / SMPS DC 12V(800mA) [AC100~240V, 50/60Hz] / Power cord / LAN cable / Mounting brackets / Connector kit
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Connectors</b>	1 composite output (75 ohm/Hi-Z) 10/100 BaseT Ethernet (auto-sensing) 1 opto-coupled inputs or 1 digital inputs (NC/NO selectable) 1 relay outputs 1 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: RS-232 or R
<b>Audio support</b>	Full duplex live audio	<b>Image sensor</b>	1/3" 410K Sony EXview HAD CCD Resolution: 480 TV Lines S/N ratio: 46dB or more (AGC OFF) Electronic shutter speed : 1/60 ~ 1/100,000 sec (NTSC) 1/50 ~ 1/100,000 sec (PAL) White Balance: ATW
<b>PTZ support</b>	Not supported (fixed dome type)	<b>Lens</b>	Auto IRIS & Vari-focal 3.8 - 9.5 mm
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)	<b>Minimum illumination</b>	Color: 0.5 Lux (F1.2) B*W: 0.005 Lux (F1.2)
<b>Alarm management</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 1 alarm input / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 2.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm output	<b>Image settings</b>	BLC (Back Light Compensation) AGC (Auto Gain Control) ELC (Electronic Level Control) FLK (Flicker Less)
<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aoip.co.kr">http://www.aoip.co.kr</a> )	<b>Casing</b>	IP66-rated, 1000 kg (2200 lbs) impact-resistant casing Polycarbonate clear dome glass Metal base
<b>Security</b>	Channel based user password protection for Live-cast, PTZ, Alarm-output and Audio	<b>Power Over Ethernet</b>	IEEE 802.3af Built-in POE
<b>Software (default Web interface)</b>	Live-cast and PTZ control through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)	<b>Dimension</b>	145(D) x 120(H) (in mm)
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM	<b>Weight</b>	970g (2.14 lbs)



High-speed PTZ dome camera in IP66 outdoor housing

# FlexWATCH® 1161SE

Network Dome Camera



(UNIT : mm)

## Model No : FW-1161SE

### Dust- & Drip-proof

IP66 approvals

Tempered aluminum housing with clear vandal-resistant bubble

### 300x Zoom

30x auto-focus optical zoom / 10x digital zoom / Smart zoom

### High performance Pan/Tilt

Pan/Tilt angle: 360° (endless) / 92° (auto flip)

Max speed: Pan-360°/sec / Tilt-200°/sec @ preset mode

Preset: 250 presets, swing, group

### 0.0007 lux

0.4 lux, 0.1 lux(D&N), 0.0007 lux(DSS) / F1.6

### DIS (Digital Image Stabilizer)

DIS reduces the variation on the image caused by wind or tremor

### M-JPEG / MPEG-4 with 2 way audio

M-JPEG/MPEG-4 simultaneous dual stream

Synchronized 2 way audio is supported with M-JPEG and MPEG-4

1ch Audio-input / 1ch Audio-output

### Full frame rate

Up to 30/25 fps (NTSC/PAL) @ 4CIF, simplex

### Channel based user permission

Channel based multi level protection for live-cast, PTZ, DO and audio

### Top level event services

Supports service triggered by various events

Multi-window motion detection

Pre- and post-image alarm buffering

### Easy installation and management

Provided with installation wizard application

Full web based management

## Other dome features

DSS (Digital Slow Shutter)

ICR (Day & Night)

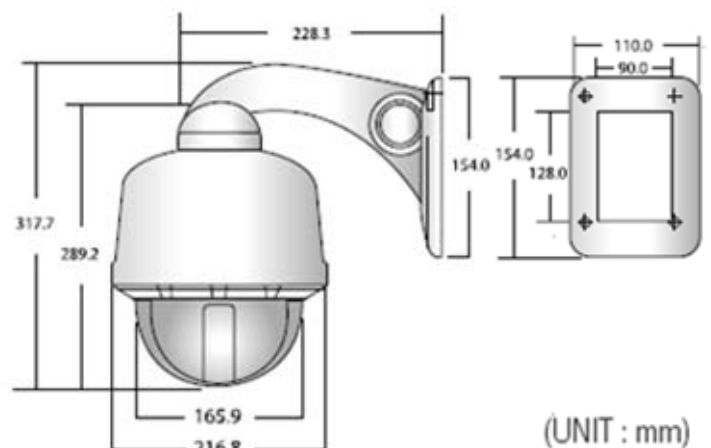
BLC (Back Light Compensation)

SSNR (Noise Reduction at Low Light)



# Technical Specifications (FlexWATCH® 1161SE Network Dome Camera)

<b>Video compression</b>	M-JPEG / MPEG-4 (simultaneous dual stream)	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Audio compression</b>	ADPCM IMA 8Kbps	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (Firmware is available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Analog channels</b>	1ch Video-output / 1ch Audio input / 1ch audio output	<b>Misc.</b>	Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 32MByte SDRAM / 8MByte Flash AC 24V/1.0A, 32~122 F (0~50 C), 20~80% RH
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Approvals</b>	MIC, FCC, CE, RoHS, IP66
<b>Live Casting</b>	Up to 30 fps @ 4CIF when simplex	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / Transformer AC 24V(1.5A) [AC100~240V, 50/60Hz] / Power cord / LAN cable / Mounting brackets / Connector kit
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Connectors</b>	10/100 BaseT Ethernet (auto-sensing) 1 opto-coupled inputs or 1 digital inputs (NC/NO selectable) 1 relay outputs 1 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: Built-in PTZ)
<b>Audio support</b>	Full duplex live audio	<b>Image sensor</b>	1/4"Sony 410K Super HAD CCD Resolution: 520 TV Lines S/N ratio: 50dB or more (AGC OFF) Electronic shutter speed : 1/60 ~ 1/100,000 sec (NTSC) 1/50 ~ 1/100,000 sec (PAL) White Balance: ATW (indoor: 3,000K~6,500K / outdoor: 1,800K~10,500K),AWC,MWB
<b>PTZ support</b>	Max Speed: Pan 360°/sec, Tilt 200°/sec@preset mode Rotation Angle: Pan 360°(endless), Tilt: 92° (auto flip) Optical zoom: x30, Digital zoom: x10 250 Preset Positions, Swing, Group, 16 privacy zone	<b>Lens</b>	IRIS control: Auto & Manual F1.4-30, f=3.3 mm wide to 99.0 mm tele Angle of view: 2.3~62.0 horizontal Shutter speed: Auto or 1/120~1/60,000 sec
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)	<b>Minimum illumination</b>	Color: 0.4 Lux (F1.6) D&N: 0.1 Lux (F1.6) DSS( Digital Slow Shutter) : 0.0007 Lux (F1.6)
<b>Alarm management</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 1 alarm input / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 2.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm output	<b>Image settings</b>	DIS (Digital Image Stabilizer) DSS (Digital Slow Shutter) SSNR (Noise Reduction at Low Light) ICR (Day & Night) AGC (Auto Gain Control) BLC (Back Light Compensation)
<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aoip.co.kr">http://www.aoip.co.kr</a> )	<b>Dimension</b>	216.8 (D) x 289.2(H) (in mm)
<b>Security</b>	Channel based user password protection for Live-cast, PTZ, Alarm-output and Audio	<b>Weight</b>	5.5Kg (12.11 lbs)
<b>Software (default Web interface)</b>	Live-cast and PTZ control through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)		
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM )		



(UNIT : mm)

## H.264/MJPEG Network Camera

**FW-1173DS** is a stand-alone IP camera which has web server and real time operation system.

It delivers real time live video at a rate up to 30fps over the TCP/IP network. FW-1173 supports H.264 Video Compression standard, so that less network bandwidth and storage space required for video. Motion JPEG is also supported for maximum flexibility and integration possibilities.

FW-1173DS delivers High Video quality at maximum 30 fps in different resolution. Traditionally, the analog video signal from the analog camera causes a "tearing" effect due to the fact even and odd fields are slightly displaced with time interval. Contrary to the traditional analog cameras, FW-1173DS adopts progressive mode processing to remove interlace defect of CCD Camera module, FW-3170 makes it possible to monitor in vivid and critical image, especially for the fast moving areas.

Auto Day & Night, and DSS (Digital slow shutter) to view object under low light condition are specific of the camera performance. Built-in motion detection, pre/post alarm buffer, RS-232/RS-485 interface for serial input device, X10 device and advanced alarm notification interface for e-mail, FTP and third party program are some of key features.

POE (Power over Ethernet) functions are also supported to optimize flexible installation and scalability. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



Shipped without lens

### Applications

FW-1173DS is high performance camera to meet professional video application with supreme video quality.

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Key Features

#### H.264 /MJPEG, IP Camera

H.264 / MJPEG encoding & transmission  
2-way audio communication

#### Auto Day / Night function

Sony Super HAD CCD  
Color, Min. 0.3 Lux, B&W, Min. 0.002lux(DSS), F1.6

#### The best Video Quality

Vivid live video monitoring  
No tearing effect on a moving area

#### Dual Streaming & High Performance

Simultaneous 'dual streaming mode' for both MJPEG & H.264 in different resolutions  
Max. 30/25fps (NTSC/PAL) live view @D1

#### COMPATIBILITY

Supported by various well known CMS applications  
(Refer to our website for more information about partners)

#### Channel-based User Permission

Channel based multi level protection  
For live-cast PTZ, DO and audio

#### POE (Power Over Ethernet)

Optional Built-in Power over Ethernet: IEEE 802.3af)

## Technical Specifications

## 1173DS Network Camera

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>System Integration Features</b>	[Protocol] HTTP, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and etc. [SDK] Open HTTP API / ActiveX for live cast with audio & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Video channels</b>	Analog 1 Input channels & 1 Output Channel (loop through).	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Compression</b>	H.264 & MJPEG : 6 levels (low compression / highest / high / normal / low / lowest)	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server Quick Time & VLC media player compatible
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 160x112 (NTSC) / 160x144 (PAL)	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>Live Casting</b>	Streaming 1 video channels with full duplex live audio Up to 30/25 fps@ 4CIF (KB) when simplex	<b>Power</b>	Power Supply - SMPS 12V (800mA) [AC100~240V, 50/60Hz] Power Consumption - DC12V, 500mA
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Audio channels</b>	1ch audio-in & 1ch audio-out	<b>Dimension / Weight</b>	84 (W) x 110 (D) x 35 (H) (in mm) 0.214Kg without Power Supply
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>External Interface</b>	1ch video inputs & 1 composite output (75 ohm/HI-Z) 10/100-Base-T Ethernet (auto-sensing) 1 photo-coupled or 1 digital inputs (NC/NO selectable), 1 relay outputs 1 audio input / 1 audio output 2 serial ports (COM: RS-232, AUX: RS-232 or RS-485)
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM)	<b>Working Environment</b>	Temperature : 32~122 F (0~50 °C) Humidity : 20~80% RH
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Image sensor</b>	1/3"Sony 410K Super HAD CCD Resolution: 540 TV Lines S/N ratio: 50dB or more(AGC OFF, Weight ON) Electronic shutter speed: X128 ~ 1/120,000 sec (NTSC) X128 ~ 1/120,000 sec(PAL) Sens-up limit is selectable / Flickerless White Balance: ATW/AWC/Manual(1,800K ~10,500K),AWC,MWB
<b>Alarm Management (for 1 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 1ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>Lens</b>	Shipped without lens CS mount
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Image Setting</b>	BACKLIGHT(OFF/LOW/MIDDLE/HIGH) AGC(OFF/LOW/MIDDLE/HIGH) LENSE(MANUAL/DC) SHUTTER(ESC/MANUAL/Flicker Less) WHITE BALANCE(ATW/AWC/MANUAL) DNR(Dynamic Noise Reduction)
<b>Dynamic IP Support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>	<b>Minimum illumination</b>	Color: 0.3 Lux (F1.6) B*W:0.002 Lux (Sens-up: x128)
<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later )	<b>Power Over Ethernet</b>	IEEE 802.3af (optional module)
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )		

\* All specifications are subject to change without prior notice.

## Accessory



POE module

Sold separately



## H.264/MJPEG Megapixel Network Camera

**FW-1173MM** is a stand-alone 1.3 Megapixel IP camera which has web server and real time operation system. It delivers real time live video at a rate up to 30fps@D1 over the TCP/IP network. FW-1173MM supports H.264 Video Compression standard, so that less network bandwidth and storage space required for video. Motion JPEG is also supported for maximum flexibility and integration possibilities.

FW-1173MM also delivers High quality Video at 15 fps at SXGA(1280x1024) in progressive mode. Traditionally, the analog video signal from the analog camera causes a "tearing" effect due to the fact even and odd fields are slightly displaced with time interval. Contrary to the conventional analog cameras, FW-1173MM has progressive scan CMOS, and makes it possible to monitor vivid and crystal clear image.

FW-1173MM is supported by various well known CMS application partners. It is able to monitor, recode, and playback by FlexWATCH's CMS application as well as various famous ones. More CMS partners is added now. (For more information about the partners, refer to the web site.)

POE (Power over Ethernet) functions are also supported to optimize flexible installation and scalability. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



Shipped without lens

### Applications

FW-1173MM is high performance camera to meet professional video application with supreme video quality.

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Key Features

#### H.264 /MJPEG, Dual Stream IP Camera

H.264 / MJPEG Dual encoding & transmission  
2-way audio communication  
1.3Mega pixel CMOS Camera Module

#### The best possible Video Quality

High (1280 X 1024 Pixel ) Resolution  
No tearing effect on a moving area

#### High Performance Streaming Engine

Max. 15fps liveview @ SXGA  
Max. 30fps liveview @ VGA  
Max. 32 simultaneous users' connection  
Low latency transmission

#### COMPATIBILITY

Supported by various well known CMS applications  
Transmission Protocol Compatibility  
( HTTP, RTP/RTSP, unicast/multicast Transmission )

#### Channel-based User Permission

Channel based multi level protection  
for live-cast PTZ, DO and audio  
Various Advanced network service module  
( ftp, e-mail, event notification by sophisticated conditions )

#### POE (Power Over Ethernet)

Optional Power Over Ethernet: IEEE 802.3af

## Technical Specifications

# 1173MM Network Camera

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>System Integration Features</b>	[Protocol] HTTP, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and ETC [SDK] Open HTTP API / ActiveX for live cast with audio & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Video channels</b>	Analog 1 Input channels & 1 Output Channel (loop through).	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Compression</b>	H.264 & MJPEG : 6 levels (low compression / highest / high / normal / low / lowest)	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server Quick Time & VLC media player compatible for live view
<b>Resolution</b>	SXGA - 1280x1024 VGA - 640x480 CIF - 320x240 QCIF - 160x112	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>Live Casting</b>	Streaming 1 video channels with full duplex live audio Up to max. 30fps@ 4CIF (KB) , 15fps@SXGA when simplex	<b>Power</b>	Power Supply - SMPS 12V (800mA) [AC100~240V, 50/60Hz] Power Consumption - DC12V, 500mA
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Audio channels</b>	1ch audio-in & 1ch audio-out	<b>Dimension / Weight</b>	84 (W) x 110 (D) x 35 (H) (in mm) 0.214Kg without Power Supply
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>External Interface</b>	1ch video inputs & 1 composite output (75 ohm/Hi-Z) 10/100-Base-T Ethernet (auto-sensing) 1 photo-coupled or 1 digital inputs (NC/NO selectable), 1 relay outputs 1 audio input / 1 audio output 2 serial ports (COM: RS-232, AUX: RS-232 or RS-485)
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM)	<b>Working Environment</b>	Temperature : 32~122 F (0~50 °C) Humidity : 20~80% RH
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Image sensor</b>	1/3"(5.4) Micron Progressive Scan CMOS Active imager size : 4.6mm(H) x 3.7mm(V), 5.9mm diagonal Active pixels : 1280H x 1024V Pixel size : 3.6 x 3.6µm Color filter array RGB Bayer pattern Shutter type Electronic rolling shutter (ERS) Responsivity 1.0 V/lux-sec (550nm) SNR MAX 44dB
<b>Alarm Management (for 1 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 1ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>Lens</b>	Shipped without lens CS mount No Iris Control For Mega Pixel Sensor
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Image Setting</b>	LENSE(MANUAL) No Iris Control
<b>Dynamic IP Support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>	<b>Minimum illumination</b>	2-10000 lux, F1.8
<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later)	<b>Power Over Ethernet</b>	IEEE 802.3af Built-in wireless(optional)
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )		

\* All specifications are subject to change without prior notice.

## Accessory



POE module

Sold separately





## H.264/MJPEG Vandal Dome Network

**FW-1175DS** is a Vandal and Weather proof Fixed Dome IP camera with IP66 standard to provide maximum protection in tough environment. FW-1175DS supports simultaneous H.264 and MJPEG Video Compression, so that less network bandwidth and storage space required.

FW-1175DS delivers High Video quality at maximum 30 fps in different resolution. Traditionally, the analog video signal from the analog camera causes a “tearing” effect due to the fact even and odd fields are slightly displaced with time interval. Contrary to the traditional analog cameras, FW-1175DS adopts progressive mode processing to remove interlace defect of CCD Camera module, FW-1175DS makes it possible to monitor in vivid and critical image, especially for the fast moving areas.

Auto Day & Night, and DSS (Digital slow shutter) to view object under low light condition are specific of the camera performance. Built-in motion detection, pre/post alarm buffer, RS-232/RS-485 interface for serial input device, X10 device and advanced alarm notification interface for e-mail, FTP and third party program are some of key features.

POE (Power over Ethernet) functions are also supported to optimize flexible installation and scalability. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



Front View

We are providing several types of brackets (optional).

Flush mount  
mount



Wall mount



Wall



\*\* Color and shape may change without prior notice.

### Key Features

#### Vandal proof / Weather proof

IP66-rated  
1000 kg (2200lbs) impact-resistant casing  
Polycarbonate dome glass

#### H.264 /MJPEG, IP Camera

H.264 / MJPEG encoding & transmission  
2-way audio communication

#### Auto Day / Night function

Sony Super HAD CCD  
Color, Min. 0.3 Lux, B&W, Min. 0.002lux(DSS), F1.6

#### The best Video Quality

Vivid live video monitoring  
No tearing effect on a moving area

#### Dual Streaming & High Performance

Simultaneous ‘dual streaming mode’ for both MJPEG & H.264 in different resolutions  
Max. 30/25fps (NTSC/PAL) live view @D1

#### COMPATIBILITY

Supported by various well known CMS applications  
(Refer to our website for more information about partners)

#### POE (Power Over Ethernet)

## Technical Specifications

## 1175DS Network Camera

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>System Integration Features</b>	[Protocol] HTTP, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and etc. [SDK] Open HTTP API / ActiveX for live cast with audio & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Video channels</b>	Analog 1 Output Channel (loop through).	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Compression</b>	H.264 & MJPEG : 6 levels (low compression / highest / high / normal / low / lowest)	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server Quick Time & VLC media player compatible
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 160x112 (NTSC) / 160x144 (PAL)	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>Live Casting</b>	Streaming 1 video channels with full duplex live audio Up to 30/25 fps@ 4CIF (KB) when simplex	<b>Power</b>	Power Supply - SMPS 12V (800mA) [AC100~240V, 50/60Hz] Power Consumption - DC12Volt, 600mA
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Approvals</b>	MIC,FCC, CE, RoHS
<b>Audio channels</b>	1ch audio-in & 1ch audio-out	<b>Dimension / Weight</b>	145pi x 120 (H) (in mm) About 0.885Kg without Power Supply
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>External Interface</b>	1ch video inputs & 1 composite output (75 ohm/Hi-Z) 10/100-Base-T Ethernet (auto-sensing) 1 photo-coupled or 1 digital inputs (NC/NO selectable), 1 relay outputs 1 audio input / 1 audio output 2 serial ports (COM: RS-232, AUX: RS-232 or RS-485)
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support ( ISDN, PSTN and GSM )	<b>Working Environment</b>	Temperature : 32~122 F (0~50 °C) Humidity : 20~80% RH
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Image sensor</b>	1/3"Sony 410K Super HAD CCD Resolution: 540 TV Lines S/N ratio: 50dB or more(AGC OFF, Weight ON) Electronic shutter speed: X128 ~ 1/120,000 sec (NTSC) X128 ~ 1/120,000 sec(PAL) Sens-up limit is selectable / Flickerless White Balance: ATW/AWC/Manual(1,800K ~10,500K),AWC,MWB
<b>Alarm Management (for 1 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 1ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>Lens</b>	Auto IRIS & Vari-focal 3.8-9.5 mm
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Image Setting</b>	BACKLIGHT(OFF/LOW/MIDDLE/HIGH) AGC(OFF/LOW/MIDDLE/HIGH) LENSE(MANUAL/DC) SHUTTER(ESC/MANUAL/Flicker Less) WHITE BALANCE(ATW/AWC/MANUAL) DNR(Dynamic Noise Reduction)
<b>Dynamic IP Support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>	<b>Minimum illumination</b>	Color: 0.3 Lux (F1.6) B*W:0.002 Lux (Sens-up: x128)
<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later )	<b>Power Over Ethernet</b>	IEEE 802.3af (optional module)
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )		

\* All specifications are subject to change without prior notice.

## Accessory



**PWE module**  
is basically included.



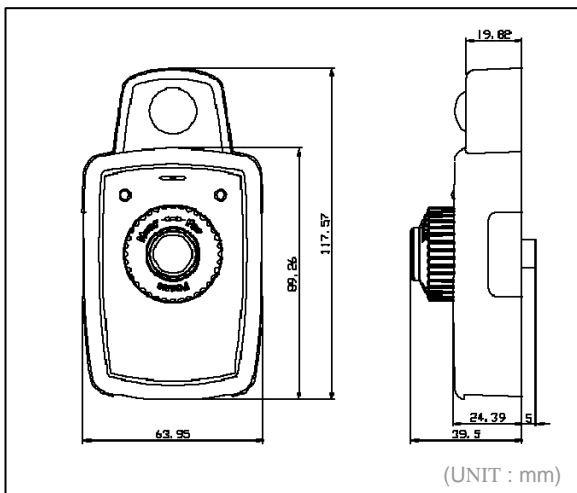
## H.264/MJPEG VGA Network Camera

**FW-1170** is a cost-effective compact IP camera for monitoring from small and mid-sized business. It delivers real time live video at a rate up to 30fps@VGA over the TCP/IP network. FW-1170 supports H.264 Video Compression standard, so that less network bandwidth and storage space required for video. Motion JPEG is also supported for maximum flexibility and integration possibilities.

FW-1170 is able to work with built-in PIR sensor to detect objects in the dark circumstance. It also delivers High quality Video at 30 fps at VGA in progressive mode. Traditionally, the analog video signal from the analog camera causes a "tearing" effect due to the fact even and odd fields are slightly displaced with time interval. Contrary to the conventional analog cameras, FW-1170 has progressive scan CMOS, and makes it possible to monitor vivid and crystal clear image.

FW-1170 is supported by various well known CMS application partners. It is able to monitor, recode, and playback by FlexWATCH's CMS application as well as various famous ones. More CMS partners are added now. (For more information about the partners, refer to the web site.)

POE (Power over Ethernet) functions are also supported to optimize flexible installation and scalability. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



**Dimension**

### Key Features

#### Compact IP Camera with PIR Sensor

Cost-effective small IP Camera for small & mid-sized businesses  
PIR sensor for detection object in dark circumstance

#### H.264 /MJPEG, Dual Stream IP Camera

H.264 / MJPEG Dual encoding & transmission  
2-way audio communication  
VGA CMOS Camera Module

#### The best possible Video Quality

Vivid live video monitoring  
No tearing effect on a moving area

#### Dual Streaming & High Performance

Simultaneous 'dual streaming mode' for both MJPEG & H.264 in different resolutions  
Max. 30 live view @VGA

#### COMPATIBILITY

Supported by various well known CMS applications  
Transmission Protocol Compatibility  
( HTTP, RTP/RTSP, unicast/multicast Transmission )

#### Channel-based User Permission

Channel based multi level protection  
for live-cast PTZ, DO and audio  
Various Advanced network service module  
( ftp, e-mail, event notification by sophisticated conditions )

## Technical Specifications

## 1170 Network Camera

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>System Integration Features</b>	[Protocol] HTTP, HTTPS, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and ETC [SDK] Open HTTP API / ActiveX for live cast with audio & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Video channels</b>	Built-in BT-656 Video Signal	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Resolution</b>	VGA - 640x480 CIF – 320x240 QCIF – 160x120	<b>Misc.</b>	Transmit serial input data with video Support NTP server Quick Time & VLC media player compatible for live view
<b>Live Casting</b>	Streaming 1 video channels with full duplex live audio Up to max 30fps@ VGA when simplex	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Power</b>	Power Supply - SMPS 12V (800mA) [AC100~240V, 50/60Hz] Power Consumption – DC12Volt, 600mA
<b>Audio channels</b>	1ch audio-in & 1ch audio-out	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>Dimension / Weight</b>	64 (W) x 113 (D) x 47 (H) (in mm) 0.16Kg without Power Supply
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM)	<b>External Interface</b>	10/100-Base-T Ethernet (auto-sensing) 1 photo-coupled or 1 digital inputs (NC/NO selectable), 1 relay outputs 1 PIR Input 1 audio output 1 serial port (COM: RS-232)
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Working Environment</b>	Temperature : 32~122 F (0~50 °C) Humidity : 20~80% RH
<b>Alarm Management (for 1 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 1ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>Image sensor</b>	1/4 inch optical format CMOS type Sensitivity : 1500 mV/lux.sec MAX Active pixel resolution: 652x488 S/N ratio: 46dB White Balance: AWB
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Lens</b>	FOCAL LENGTH : 4.3mm BACK FOCAL LENGTH : 6.3mm APERTURE : F2.0 ANGLE OF VIEW : 78°, 61° (Diagonal)
<b>Dynamic IP Support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>	<b>Image Setting</b>	LENSE(MANUAL) No Iris Control
<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later )	<b>Minimum illumination</b>	4-10000 lux
<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )	<b>Power Over Ethernet</b>	IEEE 802.3af Built-in wireless(optional)

\* All specifications are subject to change without prior notice.

## Accessory



**POE module**  
**Sold separately**



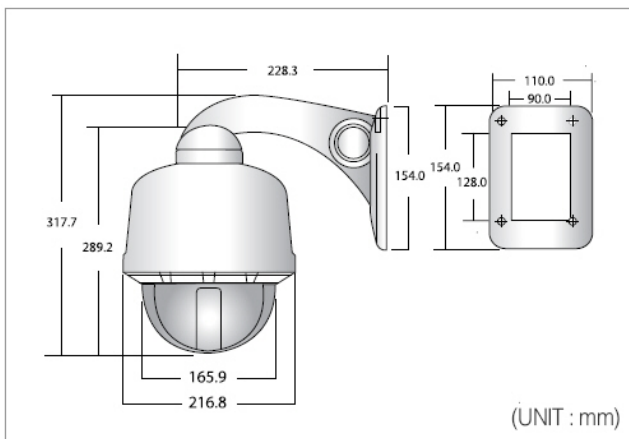
## FW-1177DE / Network Dome Camera

**FW-1177DE** is a stand-alone **PTZ network camera** which has built-in PAN/TILT/ZOOM camera, web server and real time operation system. With powerful PTZ feature, you can remotely move camera to any direction or zoom in/out the object from anywhere through standard web browser. It delivers real time live videos at a rate up to 30fps over the TCP/IP network.

Fast PAN/TILT, Superb 444x zoom (37X Optical, 12X Digital zoom) and up to 250 presets function enable you to easily focus camera to the target location and zoom up the object with simple mouse click.

Day & Night camera function, IR Sensitivity, WDR (Wide Dynamic Range) for clear image view under back light situation and DSS (Digital slow shutter) to view object under low light condition are specific of the camera performance. Built-in motion detection, up to 15.5M pre/post alarm buffer, RS-232/RS-485 interface for serial input device, X10 device and advanced alarm notification interface for e-mail, FTP and third party program are some of key features.

It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



### Dimension

### Key Features

#### Superb Zoom and Camera performance

444x zoom (37x auto-focus optical / 12x digital), Day & Night, 0.7 lux, 0.1 lux (D&N), 0.0001 lux (DSS) /F1.6  
(Optional : 30x optical, & 23x optical)

#### High speed Pan/Tilt with 250 presets

Pan/Tilt angle 360° (endless) / 92° (auto flip)  
Max speed: Pan-360°/sec, Tilt-240°/sec at Preset mode

#### WDR(Wide Dynamic Range)

Different exposure for different objects in a scene to enable object in both bright and dark areas to be visible.

#### Progressive Frame Mode

Provide D1 resolution image without distortion

#### EIS(Electric Image Stabilizer)

Reduces the variation on the image caused by wind or tremor

#### M-JPEG / H.264 with 2 way audio

M-JPEG/H.264 simultaneous dual stream  
Synchronized 2 way audio is supported with M-JPEG and H.264 1ch Audio-input / 1ch Audio-output

#### High Performance of video transmission

Up to 30/25 fps(NTSC/PAL)@4CIF, simplex

#### Vandal & weather proof

Weather proof (IP66) outdoor housing using die cast aluminium and anti-vandal PC(polycarbonate) dome cover that can withstand high impact with heater & blower for external or any tough environment.



## Technical Specifications

## 1177DE Network Dome Camera

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Video channels</b>	1ch Video-output.	<b>System Integration Features</b>	[Protocol] HTTP, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and etc. [SDK] Open HTTP API / ActiveX for live-cast with audio & PTZ [Service] Image upload service / notification service
<b>Compression</b>	H.264: 6 levels (low compression / highest / high / normal / low / lowest), MJPEG: 1 level (highest)	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp (Firmware is available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Misc.</b>	Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server
<b>Live Casting</b>	Up to 30/25 fps@ CIF (12.5KB) when simplex	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash AC 24V/1.0A, 32~122F(0~50C), 20~80% RH
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Approvals</b>	MIC,FCC, CE, RoHS, IP66
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / Transformer AC 24V(1.5A)[AC100~240V, 50/60Hz] / Power cord / LAN cable / Mounting brackets / Connector kit
<b>Audio channels</b>	1ch Audio input / 1ch Audio Full duplex live audio.	<b>External Interface</b>	10/100 Base T Ethernet(auto-sensing) 1 opto-coupled inputs or 1 digital inputs (NC/NO selectable) 1 relay outputs 1 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: Built-in PTZ)
<b>PTZ support</b>	Max Speed: Pan 360°/sec, Tilt 200°/sec@preset mode Rotation Angle: Pan 360° (endless), Tilt: 92° (auto flip) Optical zoom x30, Digital zoom x10 250 Preset Positions, Swing, Group, 16 privacy zone.	<b>Image sensor</b>	1/4" Sony 410K Super HAD CCD Resolution: 520 TV Lines S/N ratio: 50dB or more(AGC OFF) Electronic shutter speed: 1/60 ~ 1/100,000 sec (NTSC) 1/50 ~ 1/100,000 sec (PAL) White Balance: ATW(indoor: 3,000K~6,500K / outdoor: 1,800K ~10,500K),AWC,MWB
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM )	<b>Lens</b>	IRIS control: Auto & Manual F1.4-30, f=3.3mm wide to 99.0mm tele Angle of view: 2.3 ~ 62.0 horizontal Shutter speed: Auto or 1/120 ~ 1/60,000 sec
<b>Alarm Management</b>	[ Trigger] Video loss / Video recovered / Motion detection (144 area) / 1 alarm inputs / Boot finished / Serial input / Schedule / Trigger combination is possible. [ Alarm] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>Image Setting</b>	DIS (Digital Image Stabilizer) DSS (Digital Slow Shutter) SSNR (Noise Reduction at Low Light) ICR (Day & Night) AGC (Auto Gain Control) BLC (Back Light Compensation)
<b>Dynamic IP support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>	<b>Minimum illumination</b>	Color: 0.7 Lux (F1.6) D&N: 0.1 Lux (F1.6) DSS(Digital Slow Shutter):0.0001 Lux(F1.6)
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Dimension</b>	216.8 (D) x 289.2 (H)(in mm)
<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later/Pentium III 500MHz or above or equivalent AMD / 64MByte RAM or above / CDROM)	<b>Weight</b>	5.5Kg(12.11 lbs)

## Accessory



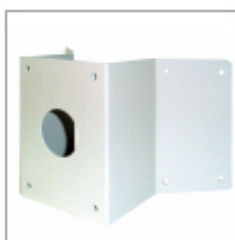
**FSC-30EWP**  
\*Basically included



**FSC-20ECP**



**FSC-20PMA**



**FSC-20ECP**



**FSC-20ICB**



Gateway to IP-surveillance for analog CCTV system

# FlexWATCH® 3150

Network Video Server



Model No : FW-3150



## 1-channel video server

1ch Video-input / 1ch Video-output, Loop-through  
1ch Audio-input / 1ch Audio-output

## M-JPEG / MPEG-4 with 2 way audio

M-JPEG/MPEG-4 simultaneous dual stream  
Synchronized 2 way audio is supported with M-JPEG and MPEG-4

## Full frame rate

Up to 30/25 fps (NTSC/PAL) @ 4CIF, simplex

## Channel based user permission

Channel based multi level protection for live-cast,  
PTZ, DO and audio

## Top level event services

Supports service triggered by various events  
Multi-window motion detection  
Pre- and post-image alarm buffering

## Easy installation and management

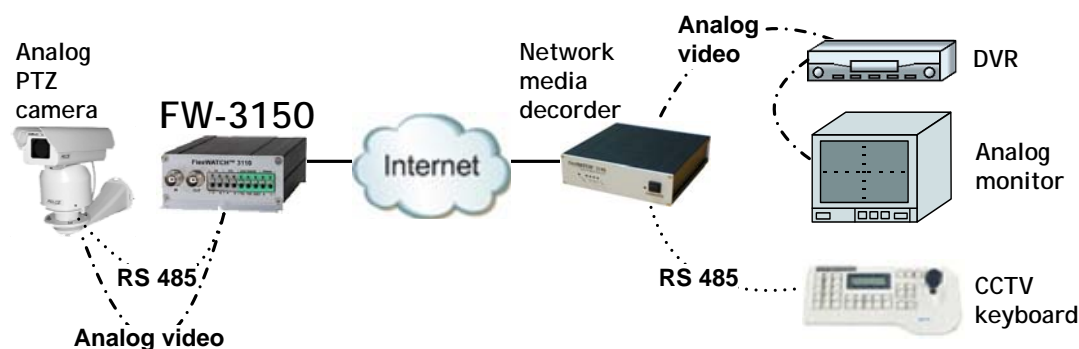
Provided with installation wizard application  
Full web based management

## Applications

FW-3150 can convert not only analog video, but serial command into a networked data.

→ Analog video extension

FlexWATCH makes it possible to overcome limit of analog CCTV cabling. We have NMD(Network Media Decoder) which is a counter part of NVS(Network Video Server) or NC(Network Camera). It convert network video into analog NTSC/PAL signal. With this solution, you can monitor remote site and control remote PTZ without a PC. And your analog DVR can record video from remote site.



# Technical Specifications (FlexWATCH® 3150 Network Video Server)

<b>Video compression</b>	M-JPEG / MPEG-4 (simultaneous dual stream)	<b>Software (default Web interface)</b>	Live-cast and PTZ control through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Audio compression</b>	ADPCM IMA 8Kbps	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM )
<b>Analog channels</b>	1ch Video input / 1ch Video-output (loop-through) 1ch Audio input / 1ch audio output		
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)		
<b>Live Casting</b>	Up to 30 fps @ 4CIF when simplex		
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (Firmware is available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Audio support</b>	Full duplex live audio	<b>Misc.</b>	Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server Live-cast for up to 32 clients
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell and etc	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 32MByte SDRAM / 8MByte Flash DC 12V/450mA, 32~122 F (0~50 C), 20~80% RH
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Alarm management</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 1 alarm input / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 2.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm output	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / SMPS 12V(800mA) [AC100~240V, 50/60Hz] / Power cord / LAN cable / Connector kit
		<b>Connectors</b>	1 video inputs & 1 composite output (75 ohm/Hi-Z) 10/100 BaseT Ethernet (auto-sensing) 1 opto-coupled inputs or 1 digital inputs (NC/NO selectable) 1 relay outputs 1 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: RS-232 or RS-485)
<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aqip.co.kr">http://www.aqip.co.kr</a> )	<b>Dimension</b>	84(W) x 122 (D) x 35(H) (in mm)
<b>Security</b>	Channel based user password protection for Live-cast, PTZ, Alarm-output and Audio	<b>Weight</b>	300 (0.66 lbs)



Gateway to IP-surveillance for analog CCTV system

# FlexWATCH® 3450

Network Video Server



Model No : FW-3450

## 4-channel video server

4ch Video-input / 1ch Video-output, Loop-through (Quad-view)  
4ch Audio-input / 1ch Audio-output

## M-JPEG / MPEG-4 with 2 way audio

M-JPEG/MPEG-4 selectable dual stream  
Synchronized 2 way audio is supported with M-JPEG and MPEG-4

## Full frame rate

Up to 120/100 fps (NTSC/PAL) @ CIF, 12.5KB, simplex

## Channel based user permission

Channel based multi level protection for live-cast,  
PTZ, DO and audio

## Top level event services

Supports service triggered by various events  
Multi-window motion detection  
Pre- and post-image alarm buffering

## Easy installation and management

Provided with installation wizard application  
Full web based management

## Quad video output for loop-through

For analog monitor display at local site

## 19" rack mount

19" rack mount kits are available



Rear view

## 19" rack mount kit

We are providing 19" rack mount kit for FW-3450 which could contain 2 pieces of FW-3450. There are a cooling fan and a SMPS for whole unit in the middle.



19" 1U rack mount kit  
\* Sold separately

# Technical Specifications (FlexWATCH® 3450 Network Video Server)

<b>Video compression</b>	M-JPEG / MPEG-4	<b>Software (default Web interface)</b>	Live-cast and PTZ control through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Audio compression</b>	ADPCM IMA 8Kbps	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM )
<b>Analog channels</b>	4ch Video input / 1ch Video-output (loop-through, Quad) 4ch Audio input / 1ch audio output		
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)		
<b>Live Casting</b>	Up to 120 fps @ CIF (12.5KB) when simplex	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (firmwares are available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR		
<b>Audio support</b>	Full duplex live audio	<b>Misc.</b>	Timestamp on video Transmit serial input data with video Different time zones are supported Date and time can be synchronized with an external NTP server Live-cast for up to 32 clients
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell and etc		
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 64MByte SDRAM / 8MByte Flash DC 12V/1.5A, 32~122 F (0~50 C), 20~80% RH
<b>Alarm management</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 4 alarm inputs / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 23.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 4 alarm outputs	<b>Approvals</b>	MIC, FCC, CE, RoHS
		<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / SMPS 12V(3A) [AC100~240V, 50/60Hz] / Power cord / LAN cable
<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aoip.co.kr">http://www.aoip.co.kr</a> )	<b>Connectors</b>	4 video inputs & 1 composite output, Quad display (75 ohm/Hi-Z) 10/100 BaseT Ethernet (auto-sensing) 4 opto-coupled inputs or 4 digital inputs (NC/NO selectable) 4 relay outputs 4 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: RS-232 or RS-485)
<b>Security</b>	Channel based user password protection for Live-cast, PTZ, Alarm-output and Audio		
		<b>Dimension</b>	140(W) x 155 (D) x 45(H) (in mm) / 19" 1U Rack mount kit
		<b>Weight</b>	600 g(1.32 lbs)





## FW-3850 / 8ch Network Video Server

**8ch Video Server, FW-3850** is a stand-alone **8 channel network video server** which transmits the crisp real time live video and audio over the TCP/IP network. The FlexWATCH® FW-3850 has 8 internal composite video, audio and DI/DO inputs. Users can access and see the live-images from 8 cameras through standard Web browser over the LAN or Internet at anytime from anywhere.

The FlexWATCH® Network Video Server (NVS) extends your existing analog CCTV or DVR systems into IP surveillance. It's basically same as a Network Camera except does not have built-in camera. Besides it is designed to connect analog video signals from CCTV cameras or DVR loop-through, and digitizes analog video signals and sends digital images directly over the IP network, such as a LAN, intranet or Internet. All the functions and services of a network video server can be managed remotely via the network. Users can change the system configurations using a remote web browser or a CMS S/W.

The FlexWATCH® NVS is affordable for sites that can be expanded from fixed analog channels to additional network cameras. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



### Applications

FW-3850 is specially designed to meet high-end video application covering a small-mid size area with various types of analog CCTV-cameras for live-casting over the TCP/IP network.

Followings are recommended application area,

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Key Features

#### MJPEG/MPEG-4, 8ch Video Sever

MJPEG / MPEG-4 supports selectively  
8ch Video-input / 1ch Video-output, Loop-through  
8ch Audio-input / 1ch Audio-output

#### Diverse I/O

8 DI/DO port, RS-485/232 for PTZ  
Multiplexed composite video output for 8ch

#### High Performance

120/100fps (NTSC/PAL) live view @CIF

#### Channel-based User Permission

Channel based multi level protection for live-cast, PTZ, DO and audio

#### Top level of Event Services

Triggered by various events, conditions & schedule  
Multi-window motion detection  
Pre- and Post- image alarm buffering

#### Diverse I/O

8 Audio In / 1 Audio Out  
8 DI/DO port, RS-485/232 for PTZ  
Multiplexed composite video output for 8ch

#### 19" Rack mountable

1U-size 19" rack mount kit is available!

## Technical Specifications

## 3850 Network Video Server

<b>Video Encoding</b>	MJPEG / MPEG-4 Video stream recording	<b>Dynamic IP support</b>	IP notification by e-mail AOIP (Always On-IP, <a href="http://www.aoup.co.kr">http://www.aoup.co.kr</a> )
<b>Video channels</b>	Analog 8 Input channels & 1 Output Channel.	<b>Software (default Web interface)</b>	Live-cast, PTZ control through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later )
<b>Compression</b>	MPEG-4: 6 levels (low compression / highest / high / normal / low / lowest), MJPEG: 1 level (highest)	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>System Integration Features</b>	[Protocol] HTTP, HTTPS, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and etc. [SDK] Open HTTP API / ActiveX for live-cast with audio [Service] Image upload / notification service / special service for POS integration
<b>Live Casting</b>	Streaming 8 video channels with full duplex live audio Up to 120/100 fps@ CIF (12.5KB) when simplex	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Audio Encoding</b>	G.723 (4-bit, 8KHz)	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server
<b>Audio channels</b>	8ch audio-in & 1ch audio-out	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 64MByte SDRAM / 8MByte Flash
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>Power</b>	Power Supply - SMPS 12V (3A) [AC100~240V, 50/60Hz] Power Consumption - DC12Volt, Normal : 1.5A, Peak : 1.6A
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM )	<b>Approvals</b>	FCC, CE, RoHS
<b>Network</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Dimension / Weight</b>	215 (W) x 290 (D) x 44(H) (in mm) 1.4Kg(3.08lbs) without Power Supply
<b>Alarm Management (for 8 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 8ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 19.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 8 alarm outputs	<b>External Interface</b>	8ch video inputs & 1 composite output, 3x3 Multiplexed display (75 ohm/Hi-Z) 10/100-Base-T Ethernet (auto-sensing) 8 photo-coupled or 8 digital inputs (NC/NO selectable), 8 relay outputs 8 audio input / 1 audio output 2 serial ports(COM: RS-232, AUX: RS-232 or RS-485 or RS-422)
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Working Environment</b>	Temperature : 41~122 F (5~50 °C) Humidity : 20~80% RH

## Accessory



19" 1U rack mount kit

Sold separately



## H.264/MJPEG 1-CH Network Video Server

**1ch Video Server, FW-3170** is a stand-alone 1 channel network video server to transmit the supreme video and audio data over the TCP/IP network. FW-3170 supports H.264 Video Compression standard, so that much less network bandwidth and storage space are required for video. Motion JPEG is also supported for maximum flexibility and integration possibilities.

FW-3170 delivers High Video quality at maximum 30 fps in different resolution. Traditionally, the analog video signal from the analog camera causes a "tearing" effect due to the fact even and odd fields are slightly displaced with time interval. FW-3170 converts the interlaced image from conventional analog camera into a progressive quality image. FW-3170 makes it possible to monitor fast moving images in vivid and crystal clear quality

The FlexWATCH® Network Video Server not only extends your existing analog CCTV or DVR systems into IP surveillance, but also enhances the existing one. FlexWATCH® is supported by many well known CMS partners, so it is possible to benefit from various CMS application. FlexWATCH®'s 10-year experience and higher performance is open to your qualified existing security systems.

The FlexWATCH® NVS (Network Video Server) is affordable for sites that can be expanded from fixed analog channels to additional network cameras. It is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



### Applications

FW-3170 is designed to meet the professional video application by giving existing analog systems to the TCP/IP network connectivity in LAN or WAN. Followings are recommended application area,

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Key Features

#### H.264 /MJPEG, 1ch Video Server

H.264 / MJPEG encoding & transmission  
2-way audio communication

#### The best possible Video Quality

Vivid live video monitoring  
No tearing effect on a moving area

#### Dual Streaming & High Performance

Simultaneous 'dual streaming mode' for both MJPEG & H.264 in different resolutions  
Max. 30/25fps (NTSC/PAL) live view @D1

#### Diverse I/O

1ch Video-input / 1ch Video-output, Loop-through  
1ch Audio-input / 1ch Audio-output  
1 DI/DO port,  
RS-485/232 for PTZ

#### COMPATIBILITY

Supported by various well known CMS applications  
(Refer to our website for more information about partners)

#### Channel-based User Permission

Channel based multi level protection  
for live-cast PTZ, DO and audio

## Technical Specifications

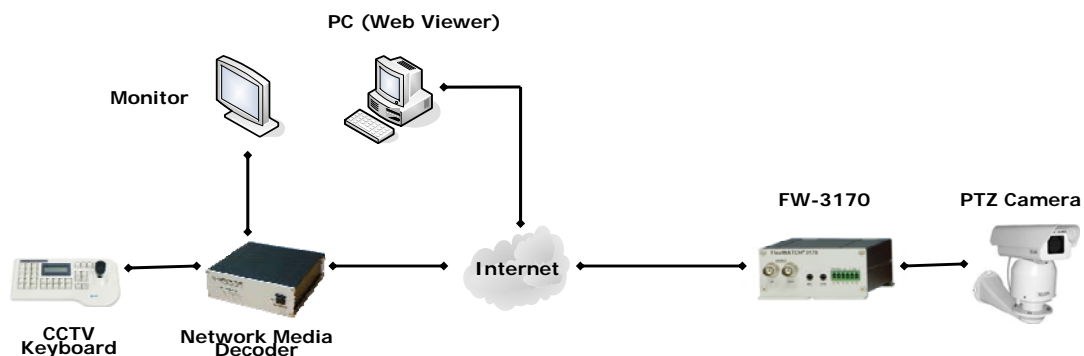
## 3170 Network Video Server

<b>Video Encoding</b>	MJPEG / H.264 (simultaneous dual stream)	<b>Dynamic IP support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>
<b>Video channels</b>	Analog 1 Input channels & 1 Output Channel (loop through).	<b>Software (default Web interface)</b>	Live-cast, PTZ control, search through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later )
<b>Compression</b>	H.264 & MJPEG : 6 levels (low compression / highest / high / normal / low / lowest)	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch ( 9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>System Integration Features</b>	[Protocol] HTTP, RTP/RTSP, Multicast, 3GPP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and ETC [SDK] Open HTTP API / ActiveX for live cast with audio & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Live Casting</b>	Streaming 1 video channels with full duplex live audio Up to 30/25 fps@ 4CIF (KB) when simplex	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Audio Encoding</b>	8 bit PCM, Sampling rates 8KHz, Mono Audio	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server Quick Time & VLC media player compatible for live view
<b>Audio channels</b>	1ch audio-in & 1ch audio-out	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc	<b>Power</b>	Power Supply - SMPS 12V (800mA) [AC100-240V, 50/60Hz] Power Consumption - DC12Volt, 500mA
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support (ISDN, PSTN and GSM )	<b>Approvals</b>	MIC,FCC, CE, RoHS
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Dimension / Weight</b>	84 (W) x 110 (D) x 35 (H) (in mm) 0.214Kg without Power Supply
<b>Alarm Management (for 1 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 1ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 15.5MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 1 alarm outputs	<b>External Interface</b>	1ch video inputs & 1 composite output (75 ohm/Hi-Z) 10/100-Base-T Ethernet (auto-sensing) 1 photo-coupled or 1 digital inputs (NC/NO selectable), 1 relay outputs 1 audio input / 1 audio output 2 serial ports (COM: RS-232, AUX: RS-232 or RS-485)
<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio	<b>Working Environment</b>	Temperature : 32~122 F (0~50 °C) Humidity : 20~80% RH

\* All specifications are subject to change without prior notice.

## Application

FW-3170, 1channel Network Video Server can convert not only analog video, but also serial command into a networked data, FlexWATCH® makes it possible to overcome limit of analog CCTV cabling. You can monitor and control site in the remote PC and using Network Media Decoder that is the counterpart of network video server, you can view and control with conventional analog device.



## IP-8Ch Network Video Recorder

**IP-8ch Network Video Recorder, FW-5050** is a stand-alone 8 channel network video recorder. FW-5050, fully IE browser enabled network video recorder, can display, record and playback the real time MJPG, MPEG4 and H.264 video streams transmitted from any FlexWATCH® IP cameras and video servers over TCP/IP network. It also supports multi-vendors' IP cameras and Video Servers such as Axis, Panasonic, Mobotix, Arecont Vision\*, IQinvision, Vivotek and so on.

FW-5050 is based on Unified Communication Protocol. Compared with other NVR (s/w or h/w based) products, FW-5050 requires only single TCP port for remote live view, playback and configuration. It minimizes network configuration burden and realizes much easier way for video management. By accessing FW-5050 locally or remotely, IP cameras connected to FW-5050 can be viewed and controlled.

FW-5050 is affordable for a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



### Applications

FW-5050 is specially designed to meet high-end video application covering a small-mid size area with various types of IP cameras and video servers. Followings are recommended application area,

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Key Features

#### Multi-Vendor Supports

Axis, Panasonic, Mobotix, Arecont, IQinvision, Vivotek, etc

#### Unified Communication Protocol

Single TCP port only for view, playback and control

#### MJPEG/MPEG-4/H.264 NVR

MJPEG / MPEG-4 / H.264 supports selectively  
8ch simultaneous streams

#### High Performance

Maximum 60 fps recording at D1 resolution  
Simultaneous recording, live, playback and backup

#### Channel-based User Authentication

Channel based multi level protection for live-cast, PTZ, DI/DO and audio control

#### 19" Rack mountable

1U-size 19" rack mount kit is available!

### Supported Vendors





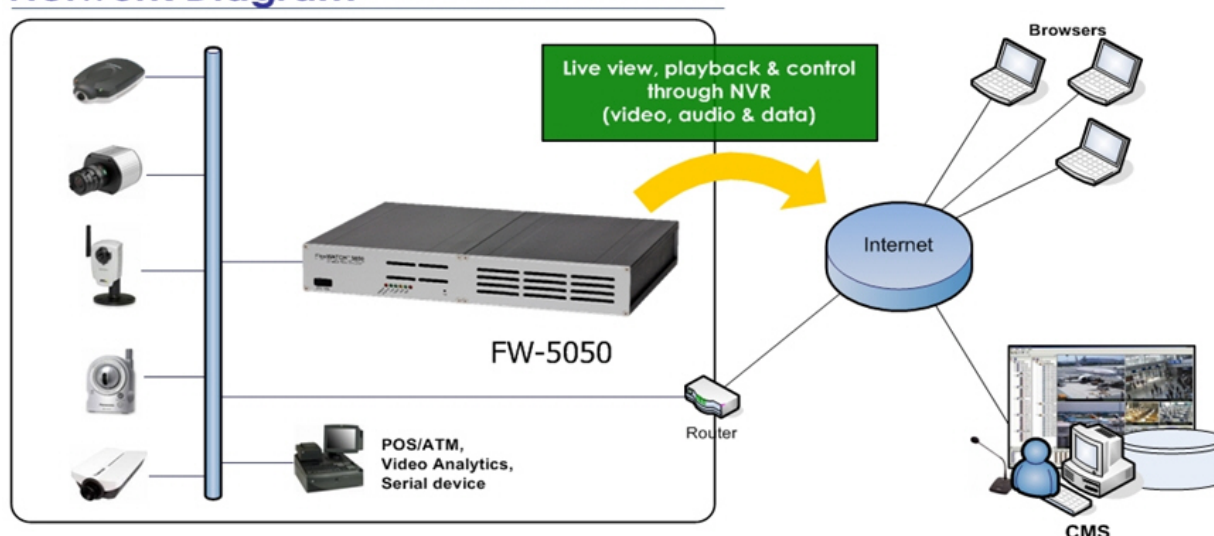
## Technical Specifications

## 5050 Network Video Recorder

<b>Video channels</b>	1 ~ 8 IP cameras	<b>HDD management</b>	Disk full notification / Periodic notification via e-mail HDD error notification via e-mail HDD error notification using beep sound (for local area notification)
<b>IP camera Brand</b>	FlexWATCH, Axis, Mobotix, Panasonic is supported now. Arecont vision, IQinVision, and Vivotek, etc. Please make sure the supported compression format according to the brand	<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio
<b>Recording storage</b>	Supports up to 1.5TB HDD by 1 SATA (After update Firmware 4.0) Anti-vibration & air-cooling system	<b>Dynamic IP support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>
<b>Recording</b>	[Video Recording] MJPEG / MPEG-4 / H.264 Max 60 fps at D1 resolution [Audio Recording] G.723 (4-bit, 8KHz), ADPCM IMA and so on [Data Recording] POS, ATM, Video Analytics, Access Control and various serial devices Please make sure the recording streams according to the brand	<b>Software (default Web interface)</b>	Live-cast, PTZ control, search and playback through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Live Casting</b>	8 channels of video, audio and data	<b>Software (Multi-NVR Player)</b>	Optional (freeware available) Search and playback video with audio from registered NVR (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Recording condition</b>	Based on the multiple combination of date / time / alarm using 'AND' & 'OR' condition Alarm can be generated by motion detection and by a trigger from digital inputs	<b>System Integration Features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and ETC [SDK] Open HTTP API / ActiveX for live-cast with audio, playback, & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Recording frame rate</b>	2 step frame rate (fast on event / Slow on continuous recording mode) Up to 120 fps in CIF (12.5 KB) when simplex	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Search</b>	Based on the multiple combination of date / time / event using 'AND' & 'OR' condition	<b>Misc.</b>	Support NTP server
<b>Playback</b>	Forward, reverse, fast forward, fast reverse, single step forward, single step backward	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 64MByte SDRAM / 8MByte Flash
<b>Synchronized playback</b>	8 channels can be played simultaneously	<b>Power</b>	Power Supply - SMPS 12V (5A) [AC100~240V, 50/60Hz] Power Consumption - DC12V, Normal : 1.5A, Peak : 3.0A
<b>Backup</b>	Video data can be backed up to a remote computer In AVI format / FJP format (FlexWATCH AV clip format)	<b>Approvals</b>	FCC, CE, RoHS
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc All 8 channels support PTZ controls	<b>Proxy Supported</b>	All Interface to network device through only one standard Web Interface - Video Proxy - Audio Proxy - PTZ Proxy - DI/DO Proxy
<b>LAN</b>	10/100-base-T Ethernet Interface	<b>Dimension / Weight</b>	215 (W) x 280 (D) x 44(H) (in mm) 1.5Kg (3.3lbs) without Power Supply & HDD
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support ( ISDN, PSTN and GSM )	<b>Working Environment</b>	Temperature : 41~122 F (5~50 °C) Humidity : 20~80% RH

\* All specifications are subject to change without prior notice

## Network Diagram



# IP-8Ch Network Video Recorder

**IP-8ch Network Video Recorder, FW-5071** is a stand-alone 8 channel high-performance network video recorder. FW-5071, fully IE browser enabled network video recorder, can display, record and playback the real time MJPEG, MPEG4 and H.264 video streams transmitted from any FlexWATCH® IP cameras and video servers over TCP/IP network. It also supports multi-vendors' IP cameras and Video Servers such as Axis, Panasonic, Mobotix, Arecont Vision\*, IQinvision, Vivotek and so on.

FW-5071 is based on Unified Communication Protocol. Compared with other NVR (s/w or h/w based) products, FW-5071 requires only single TCP port for remote live view, playback and configuration. It minimizes network configuration burden and realizes much easier way for video management. By accessing FW-5071 locally or remotely, IP cameras connected to FW-5071 can be viewed and controlled.

FW-5071 is affordable for a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, and it is also interoperated with various applications like as POS, Access Control, and Building Automation.



## Applications

FW-5071 is specially designed to meet high-end video application covering a small-mid size area with various types of IP cameras and video servers. Followings are recommended application area,

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

## Key Features

### High Performance

Maximum 120 fps recording at D1 resolution  
Maximum 60 fps display at D1  
Simultaneous recording, live, playback and backup

### Multi-Vendor Supports

Axis, Panasonic, Mobotix, Arecont, IQinvision, Vivotek, etc

### Unified Communication Protocol

Single TCP port only for view, playback and control

### MJPEG/MPEG-4/H.264 NVR

MJPEG / MPEG-4 / H.264 supports selectively  
8ch simultaneous streams

### Channel-based User Authentication

Channel based multi level protection for live-cast, PTZ, DI/DO and audio control

## Supported Vendors



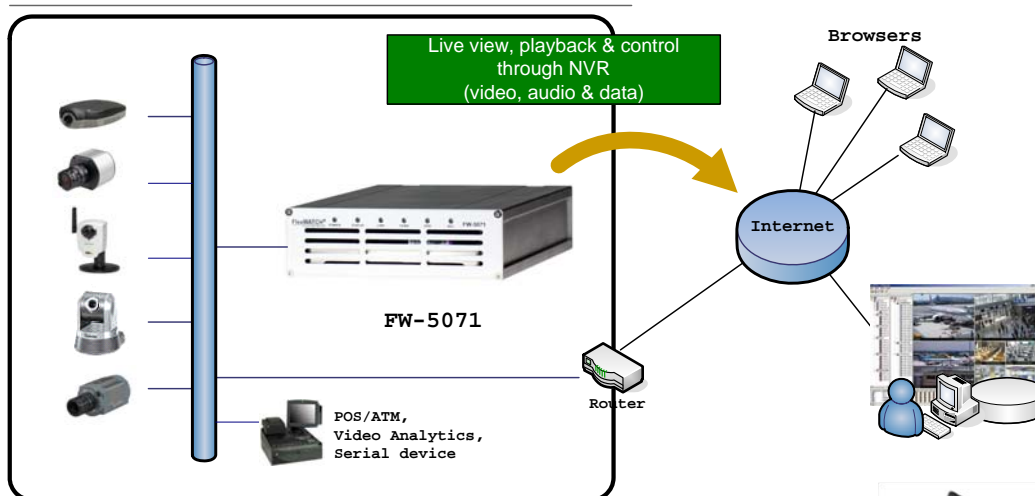
## Technical Specifications

## 5071 Network Video Recorder

<b>Video channels</b>	1 ~ 8 IP cameras	<b>HDD management</b>	Disk full notification / Periodic notification via e-mail HDD error notification via e-mail HDD error notification using beep sound (for local area notification)
<b>IP camera Brand</b>	FlexWATCH, Axis, Mobotix, Panasonic is supported now. Arecont vision, IQinVision, and Vivotek, etc. Please make sure the supported compression format according to the brand	<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio
<b>Recording storage</b>	Supports up to 1.5TB HDD by 1 SATA (After update Firmware 4.0) Anti-vibration & air-cooling system	<b>Dynamic IP support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>
<b>Recording</b>	[Video Recording] MJPEG / MPEG-4 / H.264 Max 120 fps at D1 resolution [Audio Recording] G.723 (4-bit, 8KHz), ADPCM IMA and so on [Data Recording] POS, ATM, Video Analytics, Access Control and various serial devices Please make sure the recording streams according to the brand	<b>Software (default Web interface)</b>	Live-cast, PTZ control, search and playback through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Live Casting</b>	8 channels of video, audio and data	<b>Software (Multi-NVR Player)</b>	Optional (freeware available) Search and playback video with audio from registered NVR (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Recording condition</b>	Based on the multiple combination of date / time / alarm using 'AND' & 'OR' condition Alarm can be generated by motion detection and by a trigger from digital inputs	<b>System Integration Features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP, uPNP, and ETC [SDK] Open HTTP API / ActiveX for live-cast with audio, playback, & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Recording frame rate</b>	2 step frame rate (fast on event / Slow on continuous recording mode) Up to 120 fps at D1 (23 KB) when simplex	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Search</b>	Based on the multiple combination of date / time / event using 'AND' & 'OR' condition	<b>Misc.</b>	Support NTP server
<b>Playback</b>	Forward, reverse, fast forward, fast reverse, single step forward, single step backward	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 128MByte SDRAM / 8MByte Flash
<b>Synchronized playback</b>	8 channels can be played simultaneously	<b>Power</b>	Power Supply - SMPS 12V (5A) [AC100~240V, 50/60Hz] Power Consumption - DC12Volt, Normal : 1.0 Peak : 1.8
<b>Backup</b>	Video data can be backed up to a remote computer In AVI format / FJP format (FlexWATCH AV clip format)	<b>Approvals</b>	FCC, CE, RoHS
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc All 8 channels support PTZ controls	<b>Proxy Supported</b>	All Interface to network device through only one standard Web Interface - Video Proxy - Audio Proxy - PTZ Proxy - DI/DO Proxy
<b>LAN</b>	10/100/1000-base-T Ethernet Interface	<b>Dimension / Weight</b>	140 (W) x 224 (D) x 44(H) (in mm) 0.95Kg (2.1lbs) without Power Supply & HDD
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support ( ISDN, PSTN and GSM )	<b>Working Environment</b>	Temperature : 41~122 F (5~50 °C) Humidity : 20~80% RH

\* All specifications are subject to change without prior notice

## Network Diagram



# FlexWATCH® eNVR

Enterprise NVR Series with RAID storage

## 1. Product Overview

FlexWATCH eNVR (FW-eNVR) provides a long-term storage and retrieval solution for video and audio as part of a FlexWATCH network video installation. Comprised of three key components; management software, a server platform, and RAID storage, FW-eNVR scales to handle an unlimited number of cameras and users.

FW-eNVR receives MPEG-4 and MJPEG video across the network from FlexWATCH series IP encoders including the NVS (Network Video Server), NC (Network Camera). Because FW-eNVR is network-based, it is fundamentally different from conventional digital video recorders (DVRs) and video cassette recorders (VCRs). NVRs can be securely positioned anywhere on the network, whereas DVRs and VCRs are co-located where the coax from the cameras terminates. A FW-eNVR server has a single gigabit ethernet connection coming in, whereas DVRs and VCRs have one connection for each camera input. This simplification in cabling is a major driver in the adoption of network-based video.

## 2. Features

- All-in-one solution (Comprised a server platform, RAID storage and management software)
- Max 64 channels
- Recording up to 1920 fps @CIF, NTSC (= 64x30)
- Display up to 1080 fps (depends on encoding type and data bandwidth)
- Dynamic IP support (AOIP)
- Supports all FlexWATCH® above v3.10 (except RTOS version)

## 3. H/W specification

### [Server platform]

- Hot swappable tray
  - 2U Rack / 8 tray (Model: FW-eNVR08)
  - 2U Rack / 12 tray (Model: FW-eNVR12)
  - 3U Rack / 16 tray (Model: FW-eNVR16)
- CPU : Intel Quad Core Xeon 2.0GHz, 4MB cache, 1333MHz FSB
- Memory: 3GB DDR-2 533/667MHz DIMM
- Ethernet port: 2 Gigabit Ethernet Card.
- PSU : Hot swap 500W x 2

### [RAID controller]

- CPU : Intel 80321 64bit RISC
- Cache : 512MB
- RAID level support: 0,1,3,5,0+1,6 & JBOD
- Host channel : Ultra320 x 1
- Volume Management : Yes

## 4. S/W specification

- Windows 2003 Professional
- FW-Manager 64 channel version



**FW-eNVR12**  
2U / 12 tray





## Technical Specifications (FlexWATCH® Enterprise Network Video Recorder)

<b>CPU</b>	Quad core Intel Xeon 2.0G, single processor	<b>Performance</b>	* Up to 1920 fps recording @ CIF, NTSC * Up to 1080 fps display (depends on encoding type and data bandwidth)
<b>Memory</b>	3GByte DDR2 533/667 FBDIMM	<b>Camera display</b>	* Drag & drop display configuration * Multiple camera group * Sequential display * Hot spot (alarm popup) display
<b>Ethernet</b>	Gigabit Ethernet x 2	<b>Status display</b>	* Show server connection, alarm and recording * Show system log message
<b>Storage Interface</b>	SATA-2 (NCQ support)	<b>Search</b>	* Immediate access using recording profile * Based on the multiple combination of date / time / event using 'AND' & 'OR' condition
<b>Tray</b>	Hot swap tray (8 / 12 / 16)	<b>Playback</b>	Support VCR like interface (forward, reverse, fast forward, single step forward, single step backward)
<b>Power Supply</b>	Hot swap 500W x 2	<b>Synchronized playback</b>	9 channels can be played simultaneously
<b>RAID controller on backplane</b>	CPU: Intel 80321 64bit RISC RAID Level: 0,1,3,5,0+1,6 and JBOD Host channel: Ultra320 x 1 Cache: 512 MByte Volume management: YES	<b>Backup</b>	Video data can be backed up to a remote computer In AVI format / FJP format (FlexWATCH AV clip format)
<b>Environmental</b>	50~101 F (10~40 C), 10~85% non-condensing RH	<b>Audio support</b>	Full duplex live audio
<b>Power consumption</b>	AC 90V ~ 264V Full range, 8A ~ 4A, 47Hz / 63Hz	<b>PTZ support</b>	* PTZ panel, On-image PTZ control, Joystick support * PTZ Preset triggered by event * PTZ Touring support
<b>Dimension</b>	FW-eNVR08:88(H)x482(W)x740(D)mm/3.46(H)x18.98(W)x29.13(D)inch FW-eNVR12:88(H)x482(W)x740(D)mm/3.46(H)x18.98(W)x29.13(D)inch FW-eNVR16:133(H)x482(W)x740(D)mm/5.24(H)x18.98(W)x29.13(D)inch	<b>HDD management</b>	Disk full notification via e-mail Periodic notification via e-mail HDD error notification via e-mail
<b>Weight</b>	FW-eNVR08: 25.2kgs / 55.44Lbs w/o HDD FW-eNVR12: 27.2kgs / 59.84Lbs w/o HDD FW-eNVR16: 23.3kgs / 51.26Lbs w/o HDD	<b>Dynamic IP support</b>	Register FlexWATCH behind dynamic IP AOIP™ (Always On-IP, <a href="http://www.aoip.co.kr">http://www.aoip.co.kr</a> )
<b>Video recording</b>	M-JPEG / MPEG-4	<b>Software (FW-Manager)</b>	* Full-featured PC NVR with matrix functionality * Search and playback video with audio
<b>Audio recording</b>	ADPCM IMA 8Kbps / G.723, 4 bit, 8KHz, Mono	<b>OS</b>	Windows 2003 Professional
<b>Video channels</b>	* Support all FlexWATCH video server and network camera * 64 network video channels	<b>Approvals</b>	FC, CE, RoHS, IRAB
<b>Storage capacity (physical size)</b>	Recommended configuration: RAID5 & 1 hot spare (Required space for management including OS and file system - about 0.8TB) [ Model: FW-eNVR08 ] 750GB HDD: storage x 7 + hot spare x 1 = 4.49TB 1.00TB HDD: storage x 7 + hot spare x 1 = 5.95TB [ Model: FW-eNVR12 ] 750GB HDD: storage x 11 + hot spare x 1 = 7.49TB 1.00TB HDD: storage x 11 + hot spare x 1 = 9.99TB [ Model: FW-eNVR16 ] 750GB HDD: storage x 15 + hot spare x 1 = 10.49TB 1.00TB HDD: storage x 15 + hot spare x 1 = 13.99TB	<b>Accessories</b>	User's manual / Power cord / LAN cable

**FW-eNVR08**  
2U / 8 tray



**FW-eNVR16**  
3U / 16 tray







# FlexWATCH™ Manager

**Globally and Locally manage remote  
digital video over the TCP/IP network**

- ☐ Works with all FlexWATCH™ network camera or video server series
- ☐ Control server connected either Static IP or Dynamic IP address
- ☐ Up to 10 concurrent access to the video from FwManager or FwManager Remote viewer
- ☐ Multiple Camera support up to 256 cameras (S/W Model dependent)
- ☐ Multiple camera grouping and sequential display
- ☐ On-image or Control panel based Pan/Tilt/Zoom control
- ☐ PTZ Auto positioning by event and 16 preset support
- ☐ Highlighted camera view with System log
- ☐ Powerful recording option by event, motion detection, Schedule and forced recording option
- ☐ Powerful search option by frame, time, motion detection and event
- ☐ Multiple channel search and simultaneous playback
- ☐ Remote playback of archived video
- ☐ System log viewer and compiler for archiving
- ☐ File rename and AVI file conversion of archived video
- ☐ Password protected system access



## Specification

### Supporting Video server

- All FlexWATCH™ network Camera and video server series with firmware version 2.0 or above

### Display & Recording performance

- Display only : Max up to 120fps
- Recording only : up to 600fps
- Display & Recording : up to 580fps for recording & 120fps for display

### Camera Display

- Drag & drop camera display
- Multiple **Camera group mode & Sequential display** of Camera group
- Highlighted **camera view with system log message**

### PTZ Device Control

- On-image PTZ and Dialog control panel option
- Up to 16 preset option
- **PTZ Auto positioning** on alarm condition

### Video Recording

- Event, software Motion Detection & Schedule and forced recording option.
- **2 preset area for Motion filtering**
- Use video Database

### Video Search and play back

- **Search by Schedule, Motion, Event**
- Simultaneous multiple channel playback
- **Remote playback archived video** in the FwManager PC over the TCP/IP network

### Alarm Notice

- **PC sound been alarm** when event is happened
- Camera **status bar blinking in Red** when recording or alarm is triggered.

### Disk Management

- Support **PC HDD or network HDD**
- Disk Circulation option / Pause at full option

### File Back up

- Archived video file rename option
- AVI file conversion to view archived video with Window media player.

### Server Status window

- Show server status, Alarm status and recording status through server status window

### System log

- **User definable system log message**
- System log view and compiler
- Playback by system log

### Security level

- Password protected system access.
- system configuration by **Admin level** and system monitoring by **user level**

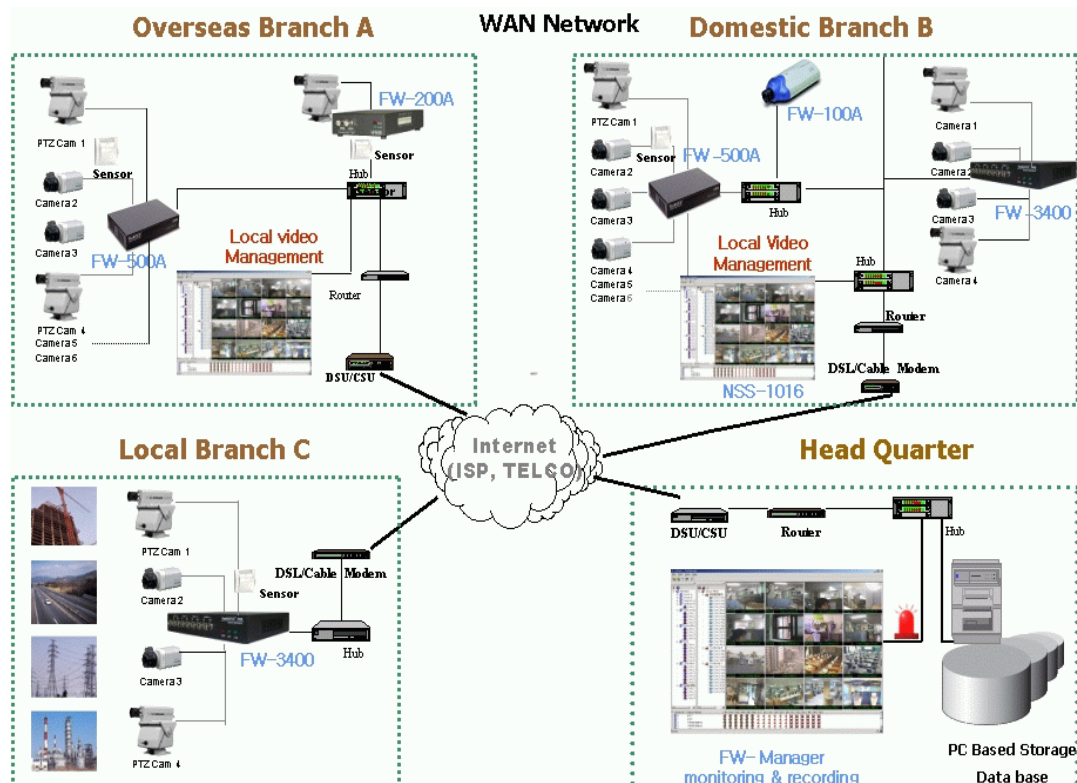
### FwManager Client program

- Bundle software **only to view multiple stream and playback archived video in the FwManager PC**

## Applications

FW-Manager can unlimitedly used when it is combined with FlexWATCH™ network camera series and other supporting product from Seyeon Technology. Following could be recommended application area with FW-Manager.

- Centralized local facility monitoring and recording such as Building, Airport, Plant, Dam and Shipyard.
- Centralized remote facility monitoring over the Internet such as Unmanned facility of Telco, Chain store, Gas Station, Branch Office & construction site.
- Security Alarm Company for visual security and alarm verification.
- System Integration for small to large sized facility



Hybrid recording system for analog and networked audio-visual

# FlexWATCH® 5450

Network Video Recorder / POS NVR solution



Front view



## Model No : FW-5450

### M-JPEG / MPEG-4 with 2 way audio

MPEG-4 for time-lapse recording  
M-JPEG for alarm triggered recording  
Audio recording and playback with M-JPEG and MPEG-4

### Hybrid

Supports 4 analog channels and 12 networked channels

### Quadplex

Simultaneous recording, live-casting, playback and backup

### Full frame rate

Up to 120/100 fps (NTSC/PAL) live-casting @ CIF, 12.5KB, simplex  
Up to 120/100 fps (NTSC/PAL) recording @ CIF, 12.5KB, simplex

### FlexWATCH POS™

POS/NVR surveillance platform  
Supports ALOHA, RetailPro, Xpient, Squirrel, WAND  
Integration is still going on.

### Secure & ample storage

Supports up to 750GB of SATA HDD  
78 days of CIF-12.5KB video at 1fps from 8 channels  
Anti-vibration and air-cooling system

### Easy installation and management

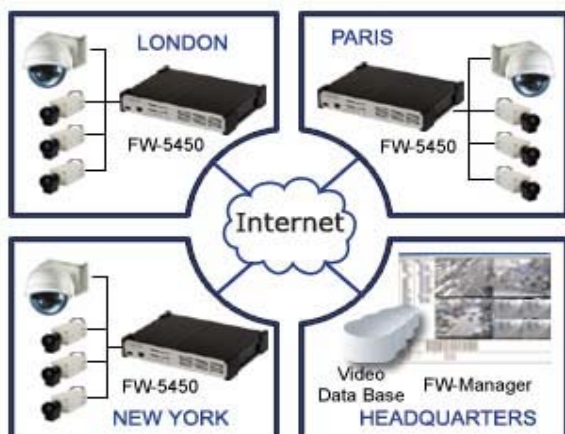
Provided with installation wizard application  
Full web based management

### Quad video output for loop-through

For analog monitor display at local site

### 19" rack mount

19" rack mount kits are available



## Applications

FW-5450 is an ideal system, wherever secure distribute on-site recording and live-casting over an IP network is required.

- POS (FlexWATCH POS™)
- Franchise
- Branch office
- SOHO
- Unmanned facility



# Technical Specifications (FlexWATCH® 5450 Network Video Server)

<b>Video recording</b>	M-JPEG / MPEG-4	<b>HDD management</b>	Disk full notification via e-mail Periodic notification via e-mail HDD error notification via e-mail HDD error notification using beep sound (for local area notification)
<b>Audio recording</b>	ADPCM IMA 8Kbps	<b>Dynamic IP support</b>	IP notification by e-mail AOIP™ (Always On-IP, <a href="http://www.aoip.co.kr">http://www.aoip.co.kr</a> )
<b>Video channels</b>	Hybrid 16 video channels (analog 4 channels / network 12 channels)	<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio
<b>Recording storage</b>	Support upto 750GB HDD by 1 SATA (Seagate brand) Anti-vibration & air-cooling system	<b>Software (default Web interface)</b>	Live-cast, PTZ control, search and playback through Web browser with audio (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Compression Level</b>	6 levels (low compression / highest / high / normal / low / lowest)	<b>Software (Multi-NVR Player)</b>	Optional (freeware available) Search and playback video with audio from registered FW5450 (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128 & 256 ch (sold separately, 9ch freeware available) Full-featured PC NVR with matrix functionality (Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above / CDROM )
<b>Live Casting</b>	Streaming 16 video channels with full duplex live audio Up to 120 fps @ CIF (12.5KB) when simplex	<b>System integration features</b>	[Protocol] HTTP, TCP/IP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, NTP [SDK] Open HTTP API / ActiveX for live-cast with audio, playback & PTZ [Service] Image upload service / notification service
<b>Network through-put control</b>	Frame rate control / Bandwidth control / CBR	<b>Installation and maintenance</b>	Configuration : installation wizard, HTTP, telnet and console Upgrade firmware : HTTP, telnet & ftp (firmwares are available at <a href="http://www.flexwatch.com">www.flexwatch.com</a> )
<b>Recording condition</b>	Based on the multiple combination of date / time / alarm using 'AND' & 'OR' condition Alarm can be generated by motion detection and by a trigger from digital inputs	<b>Misc.</b>	Timestamp on video Transmit serial input data with video Different time zones are supported Data and time can be synchronized with an external NTP server Live-cast for up to 32 clients Playback for up to 30 clients
<b>Recording frame rate</b>	2 step frame rate (fast on event / slow on timelapse mode) Up to 120 fps @ CIF (12.5KB) when simplex	<b>System hardware</b>	32bit RISC Processor / Embedded Linux / 64MByte SDRAM / 8MByte Flash DC 12V/1.5A~3A(pick), 32~122 F (0~50 C), 20~80% RH
<b>Search</b>	Based on the multiple combination of date / time / event using 'AND' & 'OR' condition	<b>Approvals</b>	MIC, FCC, CE, RoHS
<b>Playback</b>	Support VCR like interface (forward, reverse, fast forward, fast reverse, single step forward, single step backward)	<b>Accessories</b>	CD with installation wizard / User's manual / Quick installation manual / SMPS 12V (5A) [AC100~240V, 50/60Hz] / Power cord / LAN cable
<b>Synchronized playback</b>	9 channels can be played simultaneously	<b>Connectors</b>	4 video inputs & 1 composite output Quad display (75 ohm/Hi-Z) 10/100 BaseT Ethernet (auto-sensing) 4 opto-coupled inputs or 4 digital inputs (NC/NO selectable) 4 relay outputs 4 audio input / 1 audio output Reset button for factory default 2 serial port (COM: RS-232, AUX: RS-232 or RS-485)
<b>Backup</b>	Video data can be backed up to a remote computer In AVI format / FJP format (FlexWATCH AV clip format)	<b>Dimension</b>	215(W) x 280 (D) x 45(H) (in mm) / 19" 1U Rack mount kit
<b>Audio support</b>	Full duplex live audio All 16 channel support audio (if supported)	<b>Weight</b>	1.34Kg(2.95 lbs) wo HDD
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell and etc All 16 channels support PTZ control		
<b>UART support</b>	Console By-pass command to control UART device X10 device command to control device over power line Modem (Support PSTN, ISDN or GSM)		
<b>Alarm management (For 4 analog channels)</b>	[Trigger] Video loss / Video recovered / Motion detection (144 area) / 4 alarm inputs / Boot finished / Serial input / Schedule / Trigger combination is possible [Service] Image holding service (Max 19.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 4 alarm outputs		



## Hybrid Network Video Recorder

**8ch NVR, FW-5850** is a stand-alone, **Hybrid Network Video Recorder** which provides full feature of video server and recorder. It can transmit, record, and playback the real time MJPEG, MPEG4 and H.264 video stream not only from directly connected analog cameras but also the remote IP-cameras or video-servers that registered to NVR. The FW-5850 has 8 internal composite video inputs and supports additional 8 external network channels of IP camera or video server. Besides, FW-5850 can works with other IP cameras and video servers such as Axis, Panasonic, Mobotix, Arecont Vision\*, IQinvision\*, Vivotek\* and so on.

FW-5850 is based on Unified Communication Protocol. Compared with other NVR (software based and hardware based) products, FW-5850 requires only single TCP port for remote live view, playback and configuration. It minimizes network configuration burden and realizes much easier way for video management. By accessing FW-5850 locally or remotely, other IP cameras as well as FlexWATCH's one connected to FW-5850 can be viewed and controlled.

The FlexWATCH® NVR is affordable for sites that can be expanded from fixed analog channels to additional network cameras. The FlexWATCH NVR is widely used as a surveillance system for unmanned facilities, retail stores, accommodations, gas stations, etc. Having an advantage of flexibility of network video devices and digital interfacing to other systems, the NVR is also interoperated with various applications like as POS, Access Control, and Building Automation.



### Applications

FW-5850 is an ideal system, wherever secure distribute on-site recording and live-casting over the IP network is required.

- Franchise / Branch office Monitoring
- SOHO / Home Security
- Unmanned Facility Remote Surveillance
- Serial Device / POS integrated Application

### Supported Vendors



### Key Features

#### Hybrid NVR system

8 analog and 8 networked channels  
Up to 120/100fps (NTSC/PAL) liveview @CIF  
Simultaneous recording, live, playback and backup

#### Multi-Vendor Supports

Axis, Panasonic, Mobotix, IQinvision, Arecont vision, Vivotek, FlexWATCH, etc

#### Unified Communication Protocol

Single TCP port only for view, playback and control

#### MJPEG/MPEG-4/H.264 NVR

MJPEG / MPEG-4 / H.264 supports selectively  
16ch simultaneous streams

#### Diverse I/O

8 Audio In / 1 Audio Out  
8 DI/DO port, RS-485/232 for PTZ  
Multiplexed composite video output for 8ch.

#### Add-on service

User defined serial device integration as a default  
POS data integrations optionally

#### Rack mountable

1U size suitable for 19" rack



<b>Video channels</b>	Hybrid 16 video channels (Analog 8 channels / Network 8 channels) Analog channels are compressed by MPEG4 Network channels are MJPEG/MPEG/H.264	<b>Alarm Management (for 8 analog channels)</b>	[ Trigger Condition ] Video loss / Video recovered / Motion detection (144 area) / 8ch alarm inputs / Boot finished / Serial input / Schedule [ Alarm Service ] Image holding service (Max 19.2MByte pre-post alarm buffer) Image upload service through E-mail / FTP (support pre & post) Notification service through TCP / UDP / HTTP / 8 alarm outputs
<b>IP camera Brand</b>	FlexWATCH, Axis, Mobotix, Panasonic is supported now. Arecont vision, IQinVision, and Vivotek, etc. Please make sure the supported compression format according to the brand	<b>HDD management</b>	Disk full notification / Periodic notification via e-mail HDD error notification via e-mail HDD error notification using beep sound (for local area notification)
<b>Recording storage</b>	Supports up to 1.5TB HDD by 1 SATA (After update Firmware 4.0) Anti-vibration & air-cooling system	<b>Security</b>	Channel based user password protection for live-cast, PTZ, alarm output and audio
<b>Recording</b>	[Video Recording] MJPEG / MPEG-4 / H.264 Video stream recording Max 120 fps at CIF resolution [Audio Recording] G.723 (4-bit, 8KHz) stream recording [Data Recording] POS, ATM, Video Analytics, Access Control and various serial devices	<b>Dynamic IP support</b>	Dynamic IP service using <a href="http://www.ipcctvdns.com">www.ipcctvdns.com</a>
<b>Resolution</b>	4CIF - 704x480 (NTSC) / 704x576 (PAL) 2CIF - 704x240 (NTSC) / 704x288 (PAL) CIF - 352x240 (NTSC) / 352x288 (PAL) QCIF - 176x112 (NTSC) / 176x144 (PAL)	<b>Software (default Web interface)</b>	Live-cast, PTZ control, search and playback through Web browser (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Live Casting</b>	Streaming 8 video channels with full duplex live audio Up to 120 fps @ CIF (12.5KB) when simplex	<b>Software (Multi-NVR Player)</b>	Optional (freeware available) Search and playback video with audio from registered FW-5850 (Minimum PC requirement - XP, 2000, Vista / IE 6.x or later / Pentium III 500 MHz or above or equivalent AMD / 64MByte RAM or above)
<b>Bandwidth Management</b>	Frame rate control / Bandwidth control / CBR / VBR	<b>Software (FW-Manager 3.xx)</b>	Supports 16, 25, 36, 64, 128, 256ch (9ch freeware available) Full-featured PC NVR with matrix functionality ( Minimum PC requirement - XP, 2000 / Pentium IV 1.6GHz or above / 256MByte RAM or above / 64MByte video memory or above )
<b>Recording condition</b>	Based on the multiple combination of date / time / alarm using 'AND' & 'OR' condition Alarm can be generated by motion detection and by a trigger from digital inputs	<b>System Integration Features</b>	[Protocol] HTTP, TCP/IP, RTP/RTSP, Multicast, 3GPP, ARP, ICMP, Telnet, Ftp, PPPoE, SMTP, DHCP, uPNP, NTP (Some of protocols are only for built-in module) [SDK] Open HTTP API / ActiveX for live-cast with audio, playback, & PTZ [Service] Image upload / notification service / special service for POS integration
<b>Recording frame rate</b>	2 step frame rate (fast on event / Slow on continuous recording mode) Up to 120 fps in CIF (12.5KB) when simplex	<b>Installation and maintenance</b>	Configuration: installation wizard, HTTP, telnet and console. Upgrade firmware: HTTP, telnet & ftp
<b>Search</b>	Based on the multiple combination of date / time / event using 'AND' & 'OR' condition	<b>Misc.</b>	OSD (On-Screen Display) / Time-stamp on video Transmit serial input data with video Support NTP server Quick Time and VLC media player compatible for live view (built-in module)
<b>Playback</b>	Forward, reverse, fast forward, fast reverse, single step forward, single step backward	<b>System hardware</b>	32bit RISC CPU / Embedded Linux / 64MByte SDRAM / 8MByte Flash
<b>Synchronized</b>	8 channels can be played simultaneously	<b>Power</b>	Power Supply - SMPS 12V (5A) [AC100~240V, 50/60Hz] Power Consumption - DC12V, Normal : 2.0A, Peak : 3.5A
<b>Backup</b>	Video data can be backed up to a remote computer In AVI format / FJP format (FlexWATCH AV clip format)	<b>Approvals</b>	FCC, CE, RoHS
<b>PTZ support</b>	Built-in PTZ device protocol with more than 30 different PTZ protocols from Pelco, Vicon, Kalatel, Sony, Panasonic, Canon, Honeywell, etc. All 16 channels support PTZ controls	<b>External Interface</b>	8ch video inputs & 1 composite output, 3x3 Multiplexed display (75 ohm/Hi-Z) 10/100-Base-T Ethernet (auto-sensing) 8 photo-coupled or 8 digital inputs (NC/NO selectable), 8 relay outputs 8 audio input / 1 audio output 2 serial ports (COM: RS-232, AUX: RS-232 or RS-485)
<b>Audio support</b>	8ch audio-in & 1ch audio-out	<b>Dimension / Weight</b>	215 (W) x 290 (D) x 44(H) (in mm) 1.71Kg(3.77lbs) without Power Supply & HDD
<b>UART support</b>	Console, By-pass command to control UART device X10 device command to control device over power line, Modem Support ( ISDN, PSTN and GSM )	<b>Working Environment</b>	Temperature : 41~122 F (5~50 °C) Humidity : 20~80% RH

\* All specifications are subject to change without prior notice

## Accessory



19" 1U rack mount kit

Sold separately



# CMS Solutions



- CMS (Centralized Management System)
- CMS-3<sup>rd</sup> party



## CMS (Centralized Management System)



### ❖ Overview

Sophisticated yet easy to use, the CMS takes CCTV management to the next generation of video monitoring/control system. Whether used locally or distributed over a WAN, CMS is perfect for Intelligent Building Systems (IBS), governments facilities (embassies around the world, federal and state buildings and more), airports, factories, franchise operations, large retail shops/supermarkets, enterprises (for monitoring flow and processes of their branch offices) or any other businesses that requires easy but intelligent access to live or recorded surveillance videos and its controlled signals.

Unlike its competing solutions, the CMS is an unique total centralized management system, which it allows to manage more than 1,000 cameras and its related alarm/control signals using advanced system.

And 'alarm/event & map' based GUI system will guide security teams directly into critical information rather than wasting a lot of time and resources getting to such required information. Furthermore, intelligent reports can be created using gathered databases, pro-active events & alarm handling, user friendly video export capabilities and other intuitive features are supported.

### ❖ Product Features

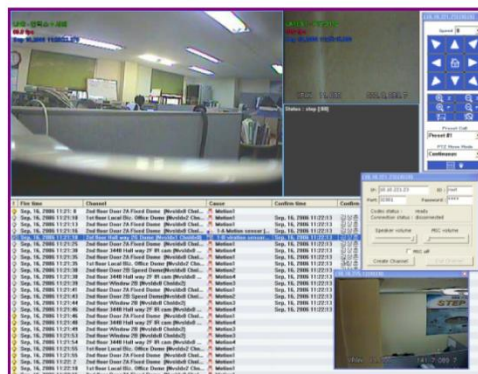
- Can manage more than 1,000s of cameras and its related alarm/control signals
  - User friendly map (alarm/event) based management
    - ✓ One click to the source' rather than going through tapes after tapes in order to get to the information that the security team needs
  - Individual video server/network camera/DVR management including, configuration, remote site information, user definable alarm control, control of cameras/sensors/control signals, setting of motion detection areas/camera, recording schedule and more
  - Gather real-time events and alarms through 'motion detects' and sensors
    - ✓ Instant access to the area where the events/alarms occurred via events/alarms menu or 'pop-up' menu
  - Supports up to 16 video view selections
  - Convenient control by map
  - Can connected by portable viewer and web viewer
  - Camera control
    - ✓ P/T/Z/F camera control and 'preset position' support
    - ✓ Speed (fps), size and quality (compression rate)
  - Video playback and search
    - ✓ Advanced search by user definable condition
    - ✓ Able to create, store and transmit video images and files (AVI)
  - Able to create reports based on events and alarms logs
  - Video image and file handling via email and alarm
  - Efficient alarm handling through email to the key personnel
  - Virtually unlimited storage capacity using local disks, RAID, NAS and more
  - Supports virtual matrix function using 'drag and drop'
  - Enhanced integration capability with 3<sup>rd</sup> party security equipment and it's management system using SDK
- And more



## ❖ Applications

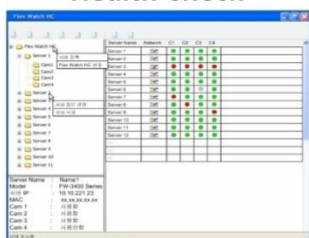
### ● Applications

- ✓ IBS (Intelligent Building Systems)
- ✓ Governments (Embassies around the world, federal & state facilities and more)
- ✓ Campus facilities (airports, harbors, Schools, hospitals, prisons, factories and more)
- ✓ Law enforcements (cyber patrol and it's own police facility)
- ✓ Enterprises (banks, corporate with branch offices, and more)
- ✓ Large retail shops
- ✓ Franchise stores
- ✓ Utility companies (power, gas companies and more)
- ✓ Transportation companies (Subways, railways, highways and more)
- ✓ Security companies (to manage their clients and provide VIP services)
- ✓ Militaries
- ✓ And more



**Alarm manager**

### Health Check



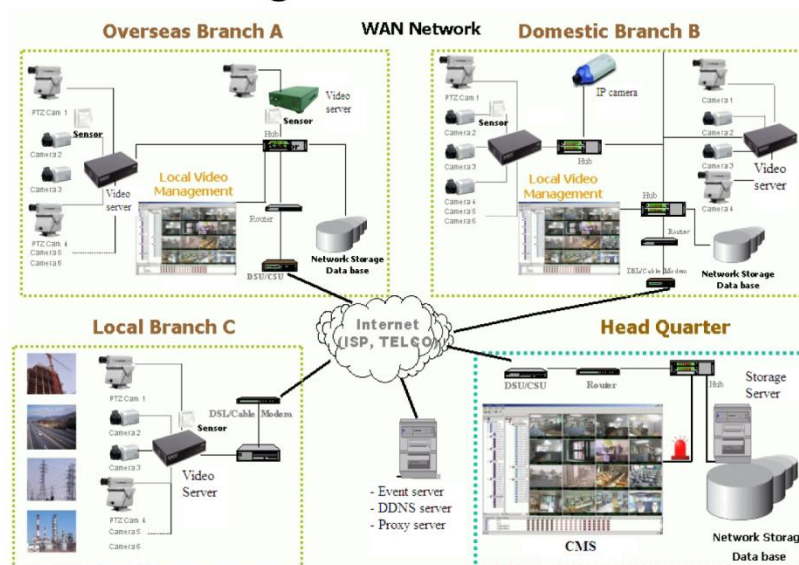
### ● CMS can offer users

- ✓ Tremendous time and resources savings
- ✓ Fast and effective alarm handling and information process
- ✓ Live video, audio and data access from any place, at any time
- ✓ Loss prevention!
- ✓ Decrease crime rate
- ✓ New management tool to monitor the flow and improve the processes and services
- ✓ Alignment with corporate policy
- ✓ Maintenance of high 'health standards', quality dining environment, food cost savings
- ✓ Save costs and improve revenues!
- ✓ Improved customer satisfaction!
- ✓ Elimination of unnecessary lawsuits

### Map manager



## ❖ Flexible network configuration



## ❖ CMS superior video management and storage system

### ● CMS Clients

#### Multi-viewer

- ✓ Up to 16 concurrent live video views
- ✓ Multiple camera group & sequential camera group
- ✓ Advanced PTZ control
  - PTZ / Touring feature
  - Auto position on alarm condition
  - Up to 32 preset positions
- ✓ Digital zoom

#### Player

- ✓ Playback video from any camera by date/time
- ✓ Search video sequence based on date/time/event
- ✓ Video files can be converted to AVI format
- ✓ Supports video capture (JPEG) and print function
- ✓ Print image with user description
- ✓ Supports digital zoom mode
- ✓ Playback up to 9 concurrent video channels
- ✓ Advanced search tools to search with combined condition

#### Alarm manager

- ✓ Automatic latest alarm display
- ✓ Hot spot video channel related with alarm
- ✓ Operated with related map manager/virtual matrix
- ✓ Instant access to the event related live video
- ✓ Instant playback recorded video by click event log
- ✓ Display event by colors/Sound Notification
- ✓ PTZ / Output control to event channel
- ✓ Voice communication
- ✓ Convenient DB search modules
- ✓ Handling user's working procedure

#### Map manager

- ✓ Flexible and convenient tree structure
- ✓ Blinking icon on map when event occurs
- ✓ Alarm sound notification
- ✓ Virtual matrix control by cameras on the map
- ✓ Live display to the related map icon by simple "double click"
- ✓ Adjacent cameras can be displayed with concerned camera
- ✓ Playback by click camera icon
- ✓ External alarm & related video can be displayed on the map

#### Virtual matrix

- ✓ Display video on LCD monitors
- ✓ Integrated with Multi-viewer
- ✓ Operated with Network media decoder (Optional)
- ✓ Up to 16 channel concurrent video channels
- ✓ Independent screen for hot spot alarm screen
- ✓ Display grouped cameras by related alarm
- ✓ Display by group and sequence

### ● CMS Server

#### Central DB server

- ✓ Records data up to 1,000 channels per one platform
- ✓ Event and authentication server
- ✓ using MS SQL DB
- ✓ 2G records manipulation
- ✓ Can handle 1024 and more cameras
- ✓ Central DB and authentication control
- ✓ Alarm records accumulation and backup
- ✓ Supports Windows O/S 2000/XP Pro and 2003 Standard
- ✓ Repairs and manages DB automatically for saving manpower

#### Recording server

- ✓ Up to 256 channel recording per 1 server
- ✓ Multiple Recording Server can be used to support whole site
- ✓ More than 1,000 fps recording capacity
- ✓ Support remote search and playback
- ✓ Supports manual / scheduled recording /event driven recording
- ✓ Supports Windows O/S 2000/XP Pro and 2003 Standard
- ✓ Storage devices: Internal S-ATA, SAN, NAS
- ✓ Co-worked with backup server

#### DDNS server (optional)

- ✓ Supports dynamic IP environments
- ✓ Group/User level management of video server's list
- ✓ Supports Video Channel Web link to merge in user's Web server etc
- ✓ Support user designed pages

#### Proxy server (optional)

- ✓ Video streaming server
- ✓ Supports up to 1024 sessions
- ✓ Gears up live video when specified channel is being accessed by several CMS applications simultaneously

#### Report tools

- ✓ Able to create report
- ✓ Print or Export event database into file.
- ✓ Advanced filtering / sorting function

#### Composer

- ✓ CMS site configuration tool
- ✓ Create/Edit/Delete Information about NVR/NVS/Camera/User etc
- ✓ Table based UI for handling large number of configuration

#### Health checker

- ✓ Checks periodically status of servers/NVR/NVRS
- ✓ Notifies error status ( Pop-up, Sound Alarm, E-mail etc )
- ✓ Reports status log list

### ❖ Models

#### *CMS (Centralized Management System)*

CMS SW/128

CMS SW/512

CMS SW/1024

CMS SW/N

Manages up to 128 cameras

Manages up to 512 cameras

Manages up to 1,024 cameras

Manages more than 1,024 cameras



## ***Video Surveillance Integrated with Access Control System***

CMS 3<sup>rd</sup> party  
with access control

### ***CMS 3<sup>rd</sup> party with access control***



#### **Key Features**

- Video monitoring and management function integrated with access control system
- Easy to be added on access control system software
- Supports DVR, Web Server and Web Camera
- Multi monitors support (16ch per each Monitor)
- Sequential view available
- Access control event and video image (Jpeg, Avi file) cooperated to provide high security
- Record user defined pre-alarm recording time
- Support various kinds of DVR, Web camera
- Support up to 30fps per each channel (Depends on DVR or Web Server)
- Supports PTZ device
- Support full duplex sounds
- Support Web for remote control and monitoring
- Able to set up for frame rate, compression, resolution, motion detection area, etc
- Easy configuration with Auto search function for LAN connected machine
- User defined map and camera display
- Protection by ID/Password



#### **Main Surveillance Screen**

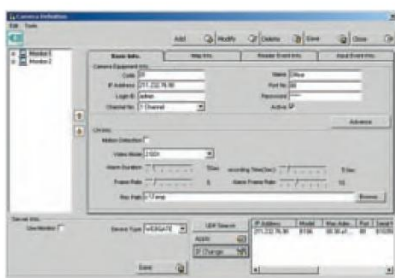
- Multi-channel display (1,2,4,6,8,9,12 and 16ch. monitoring available)
- Continuous surveillance
- Event Log display, Event Map Display
- Records images when events occur
- Real-time Surveillance screen



#### **Integrated Monitor Screen**

- Displays event logs from access control units
- Displays map including controllable icons such as cameras, doors, and sensors
- Pop up screen which shows location with a real-time image appears when event occurs
- Displays recorded image logs
- Real-time surveillance screen

CMS 3<sup>rd</sup> party  
with access control



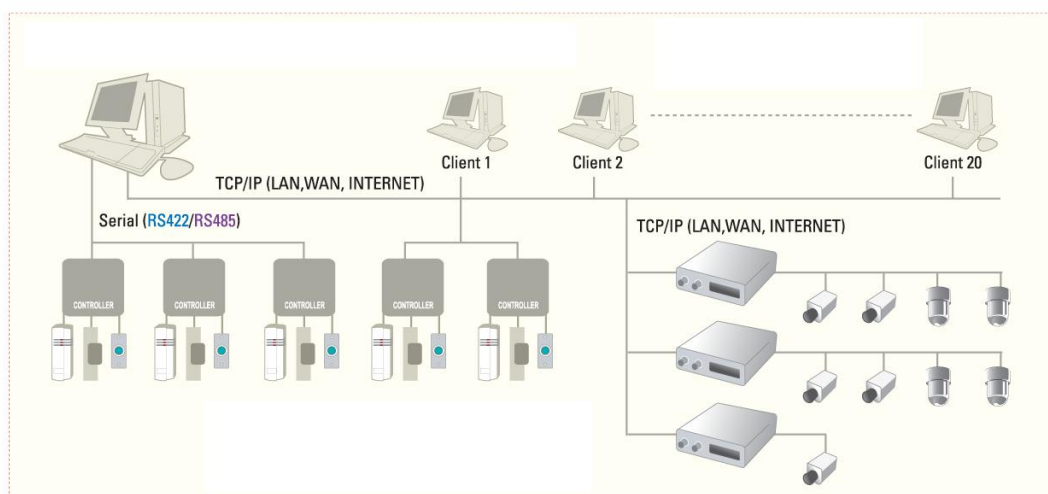
- Control playing speeds (0.5x, 1x, 2x, 4x)
- Reverse playing possible
- Supports continuous play mode
- Able to export to image or video files (Jpeg, Avi file)



## Camera Definition

- Multi monitor Setting
- DVR or web server selection (Win4Net, Chance-i, Seyeon tech)
- Auto IP detection for connected device
- PTZ and Full duplex sound setting
- Able to set various recording options according to type of event
- Map file setting including camera
- Step by step initial settings and data input via Setup Wizard

## System Configuration





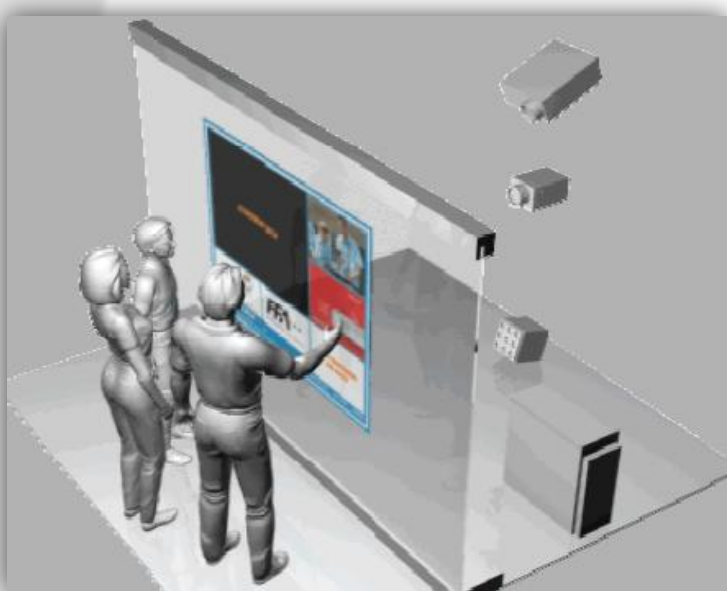


## CMS 3<sup>rd</sup> party with touch screen

### • Customized touch screen

- ALFATECH engineering experts provides customized touch screen application which can be applied to CMS security solution using open architecture.
- Experts supports touch screen system integration for customer oriented solution

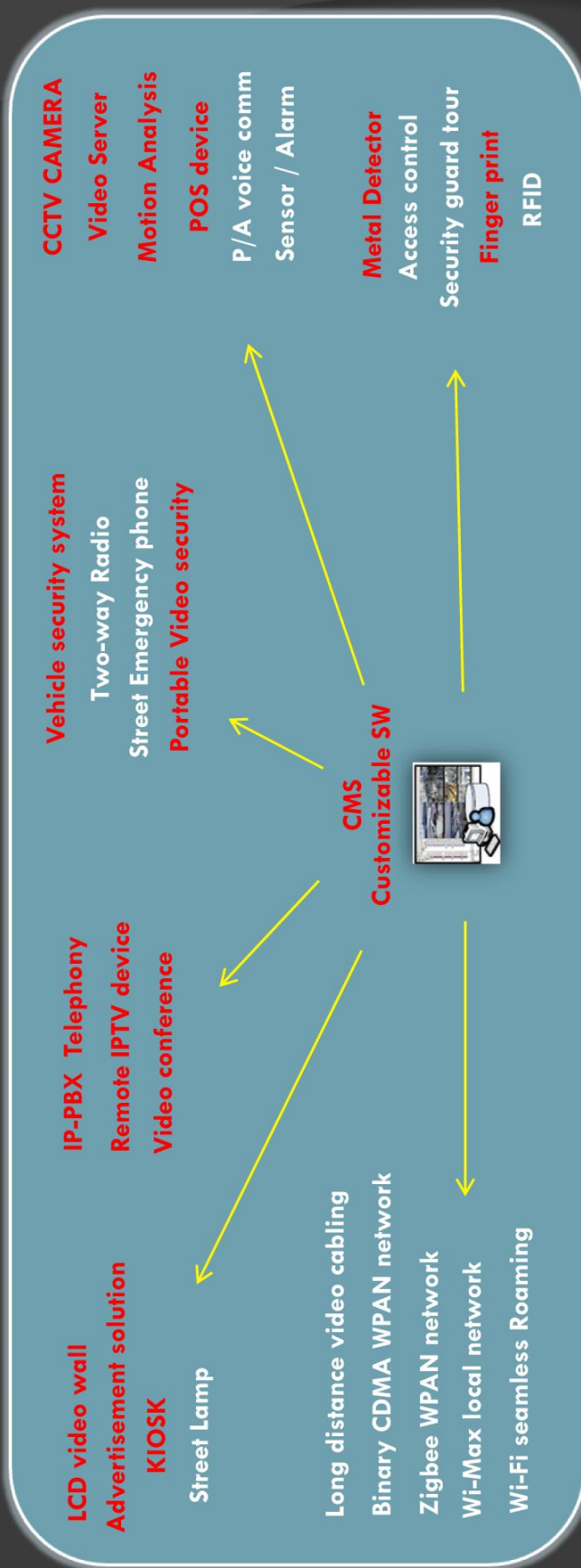
- Full compatibility with security CMS
- Cost effective & user convenience
- Programming level support
- Full customized by user requirement
- Timely implement
- Integrate existing solutions
- Web / Exe / Flash type available
- Fancy GUI, Advertisement available
- Any resolution available
- 10 inches to 100 inches screen



CMS (Centralized Management System)  
With customizable system  
using 3<sup>rd</sup> party

## CMS line up

### Total security products integration



#### Training service

- Fundamental Security training
- Command center operation
- System installation & Engineering
- Maintenance training
- Business development
- System design & Local marketing

#### Sales & Technical service

- Installation management experts
- Installation material consulting
- Local sales & Marketing support
- Customizable solution support

#### Advanced RMA / Maintenance

- Guaranteed RMA procedure
- Maintenance consulting
- Maintenance support

**We thank you**



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